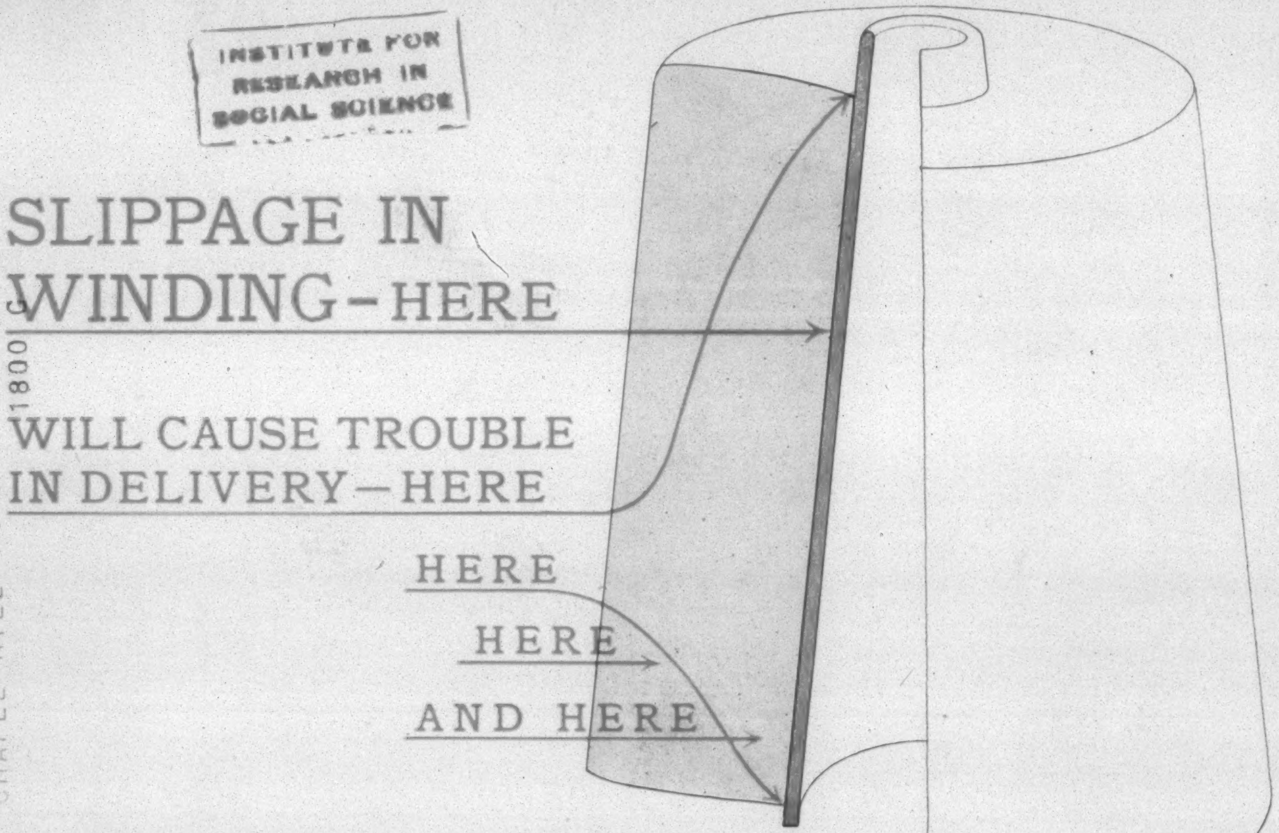
TEXTILE BULLETIN

Vol. 55 September 1, 1938 No. 1

INSTITUTE FOR
RESEARCH IN
SOCIAL SCIENCE

INSTITUTE FOR RESEARCH IN SOCIAL SCIENCE
BOX 711 AL SERVICE
CHAPEL HILL N C DEC 38 R
1800 C



SONOCO MAKES
EVERYTHING
IN
PAPER CARRIERS

. . . and the answer to this problem is found in SONOCO VELVET SURFACE CONES. They prevent slippage in the primary winding of coned yarn . . . enable the winding of the perfect yarn package . . . without which the perfect fabric cannot be made.

Eliminate costly Press-off waste . . . specify SONOCO VELVET SURFACE CONES on your next yarn contract.

SONOCO PRODUCTS COMPANY
HARTSVILLE
S. C.

DEPENDABLE SOURCE OF SUPPLY

MONEY When Needed Most . . .

- That's the story behind the distribution of this $42,000,000.00 in benefit payments which, through the years, has gone to bring swift financial relief where sickness, accident, or the death of the Breadwinner brings extra burdens or debt.

- Your Employees too can join the ranks of the more than 250,000 U. S. workers and their dependents who are now Provident protected, who have this sure safeguard against these uncertainties of life.

- As an Employer, it can be your privilege to make such a group welfare protection plan available to your workers, without other cost than permitting premium deductions over the payrolls.

PROVIDENT
LIFE AND ACCIDENT
INSURANCE COMPANY
CHATTANOOGA - - - TENNESSEE

A Provident Group Welfare protection plan, fitted to the particular needs of your workers, can help Employees meet the extra financial burden of emergencies caused by

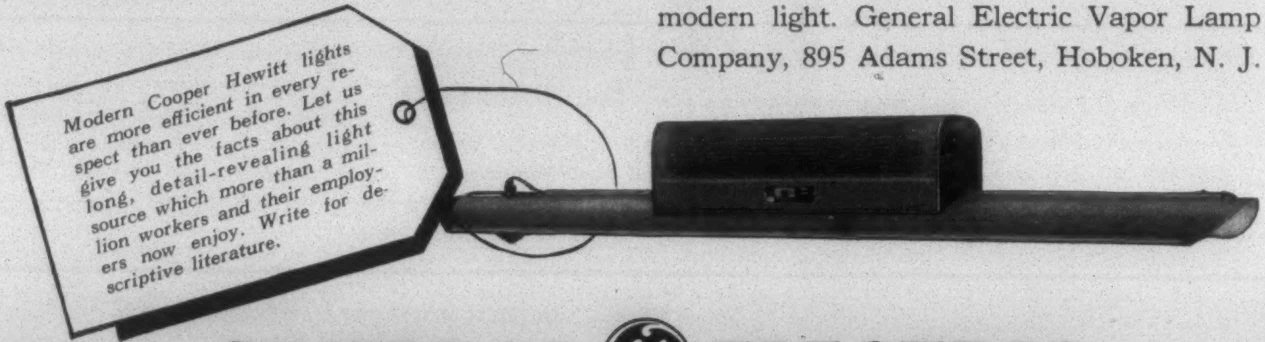
- Death in family
- Loss of time due to accident or sickness
- Hospitalization or operation when necessary
- Aiding dependents upon death of employee

Published Semi-Monthly by Clark Publishing Company, 218 West Morehead Street, Charlotte, N. C. Subscription $1.50 per year in advance. Entered as second-class mail matter March 2, 1911, at Postoffice, Charlotte, N. C., under Act of Congress, March 2, 1897.

"MERCURYS" *Reveal All*
IN FULL-FASHIONED HOSIERY

Eighty-seven per cent of the perceptions which guide a worker's performance are based on sight. That's why mills such as the full-fashioned, illustrated above, prefer Cooper Hewitt light. "High seeability" is what you get with this long, detail-revealing light. It gives that extra quality that makes better work easier.

Whether it be full-fashioned hosiery, woolen blankets, or cotton cloth, foresighted textile plants have decided that good seeing is always good business. With the new Cooper Hewitt engineered to the job . . . the best lighting is more practical and less expensive than ever before. Ask us to prove how you can profit from this modern light. General Electric Vapor Lamp Company, 895 Adams Street, Hoboken, N. J.



Modern Cooper Hewitt lights are more efficient in every respect than ever before. Let us give you the facts about this long, detail-revealing light source which more than a million workers and their employers now enjoy. Write for descriptive literature.

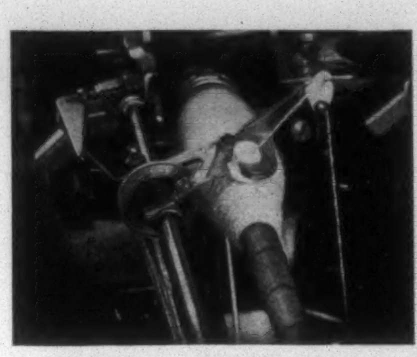
GENERAL ELECTRIC
VAPOR LAMP COMPANY

413C

803159

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements
in winding equipment and new ideas in the winding operation



AUXILIARY PRESSURE LEVER

(No. 90 Winder)

When winding bobbins of woolen, worsted and similar heavy yarns from a supply package below the spindle, a hard-packed bobbin can be obtained by equipping the No. 90 Winder with a lever extension on the regular traverse guide — called the Auxiliary Pressure Lever. The extra length provides the leverage which results in *increased* pressure and more *even* pressure at the changing diameters of the traverse stroke.

One mill winding heavy woolen yarn increased the weight of yarn on the bobbin from 669 grains to 779 grains, an increase of 16.7%. Another mill winding heavy carpet warp yarn increased the weight from 1147 grains to 1261 grains, an increase of 10%.

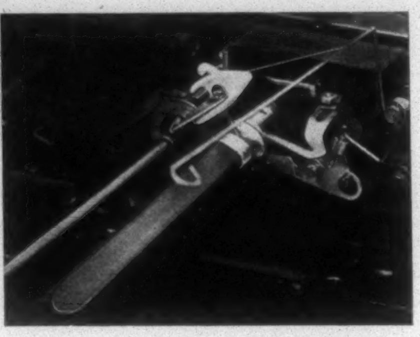
Because the pressure is obtained by extra leverage in combination with heavy tension, this attachment is only suitable for the stronger and coarser counts of yarns.

When winding long bobbins, the winding spindle should also be equipped with the Bobbin Support Attachment, which holds the tip end of the bobbin in place when using extra tension and pressure.

FLAT PAPER COP HOLDER (No. 90 Winder)

A special cop holder has been developed for the new flat paper cops. It is made of spring steel, and fits the inside of the flat cop as shown in the illustration.

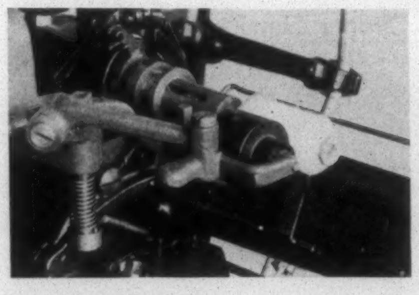
The base of the bobbin contacts an adjustable collar which allows changing the winding point in or out to obtain a correct and uniform location of the bunch on the bobbin.



SMALL BOBBIN SPOOL ATTACHMENT

(No. 50 Winder)

Our regular Bobbin Spool Attachment has been used for winding thread for some time. When the yarn is to be taken off over the end of the package, the bobbin spool makes it easy for the sewing machine operator to get the proper end of the package up every time. In this way, the uniformity of the twist in the yarn is preserved, and kinking is prevented.



Lately there has been a demand for an attachment to wind small bobbin spools particularly for expensive thread. The quantity of material on one of these small packages is enough for a single day's supply on a sewing machine.

The attachment shown in the illustration is similar to the regular Bobbin Spool Attachment. Under certain conditions, two of these small bobbin spools can be wound at once on a single spindle — each with an individual tension and stop motion.

PRECISION WINDING REQUIRES GOOD GEARS

Gears for Leesona Winders are carefully made, with close attention to all the factors which contribute to accuracy: material, pitch diameter, and other individual tooth elements. Special tools are used for each change in diameter and number of teeth. And each gear is subjected to a final rigid inspection by being run against a master on a Gear Calibrating Machine to make sure that only perfect gears are distributed to our customers.

Every time a gear is replaced on a winding machine, there is a chance that the new gear will not mesh properly with its mates; that is why it is important to be sure that it has been manufactured as carefully as the old gear it replaces. If the meshing is too tight, noise results, and the new gear proceeds to generate a new shape, wearing out both itself and its mating gears; if too loose, there is the danger of excess backlash, which will cause both sides of the tooth to be worn.

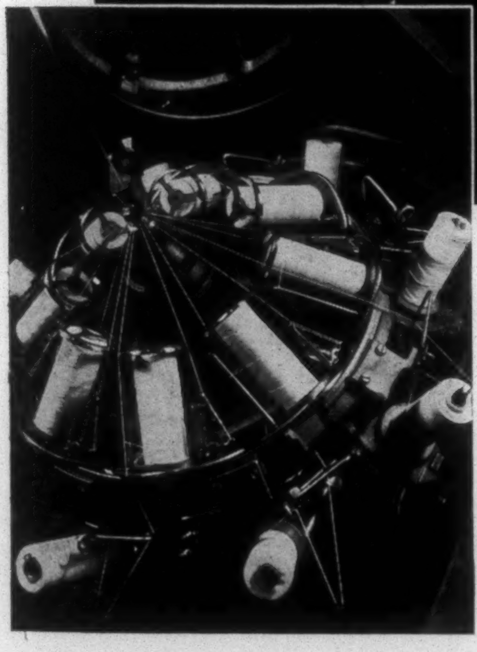
A gear is one of the winding machine parts that can be replaced cheaply but, unless well made, may cause some more expensive parts to be damaged. Most mills have found it wise to be sure that *all* worn gears are replaced . . . and to insist upon the quality that, in the long run, means lowest repair costs.

"THERE'S A UNIVERSAL WINDER FOR EVERY TEXTILE NEED"

UNIVERSAL WINDING COMPANY

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

"I asked my boss for a BETTER OIL...



The large head rotors of this modern braiding equipment operate at a speed of 488 R.P.M., with the spools on the head rotating much faster. Gulf Harmony Oil is widely used for the lubrication of this type of equipment.

. . . now, with GULF HARMONY OIL in service, I turn out 20% more cord!"

(says this overseer)

"NOBODY can tell me that good lubricating oil doesn't have a lot to do with production," says this mill overseer. "Since my boss approved using Gulf Harmony Oil for this braiding machinery, as the Gulf engineer recommended, we've increased production 20%."

Scores of mills throughout the country are reporting improved production with lower costs for maintenance and fewer operating interruptions, after Gulf's higher quality oils have been placed in service. They find that the initial cost of good oils is an extremely small item when compared with the savings effected in power and maintenance costs and the improvements in production which accompany better lubrication.

An experienced Gulf engineer, thoroughly familiar with today's problems of mill operation, is ready to give you intelligent lubrication counsel which will be of real dollar-and-cents value to you. Why not take advantage of this money-saving service at once?

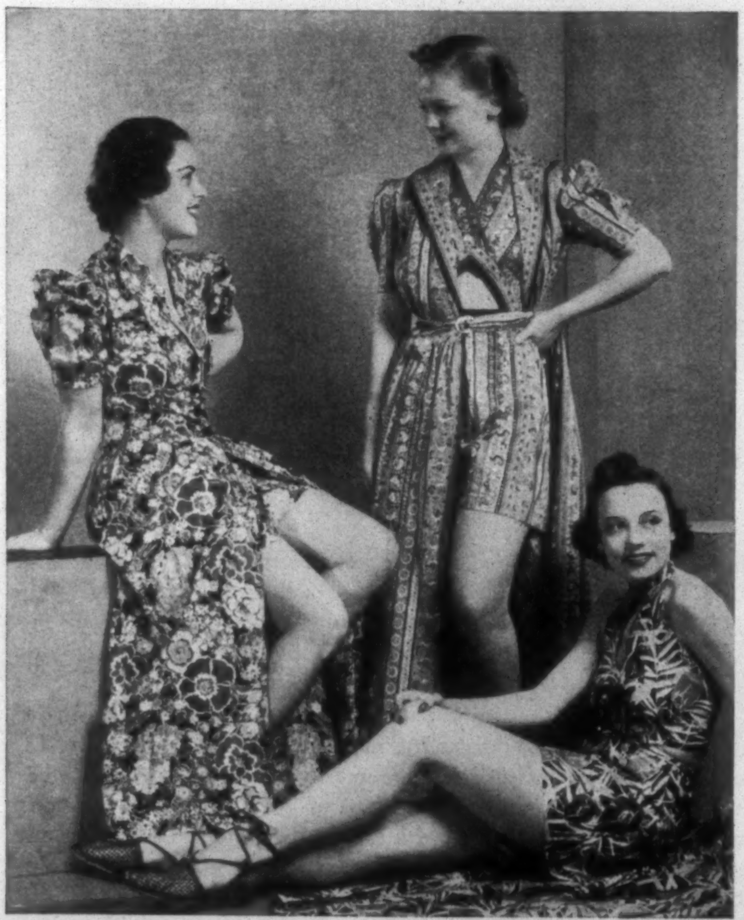
GULF INDUSTRIAL LUBRICATION

Listen to the new Gulf radio program—THE PASSING PARADE, with John Booth Nesbit—every Sunday evening, Columbia network.

Gulf Oil Corporation • Gulf Refining Company

GENERAL OFFICES: GULF BUILDING, PITTSBURGH, PA.

MORE YARDAGE *per pound of dyestuff* *with* SUPERCLEAR



Clear, Full-Toned Prints
Maximum Penetration

● Superclear and Supertex printing gums, because of their extreme penetrating and color-carrying properties and the fact that more shallow engravings are possible, make greater economies in dyestuffs obtainable.

The addition of Superclear or Supertex to starch, dextrine or tragacanth thickening pastes gives these thickeners greater fluidity, greater penetration and better lubrication.

Added to pigment colors, particularly pigment whites, these printing gums give the more fluid body necessary for continuous printing.

After aging and steaming, Superclear or Supertex is easily removed with a light wash because of their extreme solubility.

JACQUES WOLF & CO.

MANUFACTURING CHEMISTS AND IMPORTERS . . . PASSAIC, NEW JERSEY
Warehouses: Providence, R.I.; Philadelphia, Pa.; Utica, N.Y.; Chicago, Ill.; Greenville, S.C.; Chattanooga, Tenn.

IDEAS that *Clicked*

THINK THIS HULL WILL HOLD?
WE'RE LUCKY IF IT LASTS THIS HEAT

1. In the "early days" you wouldn't enter a speed boat race with a single hull. Several extra hulls were required to replace ones shaken and pulled apart by the strain. The hulls couldn't "take it."

IT'S THE THIRD HULL IN THREE DAYS OF RACING
I HAVE AN IDEA THAT BY FASTENING THE HULL WITH SCREWS IT WILL LAST INDEFINITELY. IT'S WORTH A TRY

2. "Hulls can't be built tough enough for racing speeds," the experts said. But one race mechanic thought differently. He *had an* idea the weakness lay in the hull fastenings. He *thought* screw fastenings would hold.

LOOKS SCREWY TO ME
THAT'S JUST WHY IT'S BETTER

3. So much attention was placed on motors that hull development lagged way behind. But a new idea in boat construction was taking form . . . Hulls were now being made sturdier, stronger and more dependable—in fact would outlast the motors.

WINNING AGAIN
IT'S HIS 11TH RACE IN THE SAME HULL
THERE'S AN IDEA THAT CLICKED

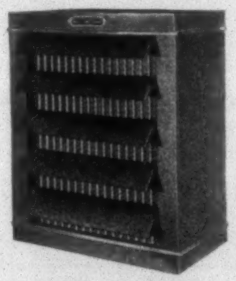
4. **An idea that clicked . . .** won fame and fortune for the motor mechanic who now is head of his own boat building concern . . . Men are winning promotion, prestige, fame and fortune every day by progressive, practical ideas that cut cost in industry — save waste or needless expense.

HERE'S AN IDEA IN HEATING *that always clicks*

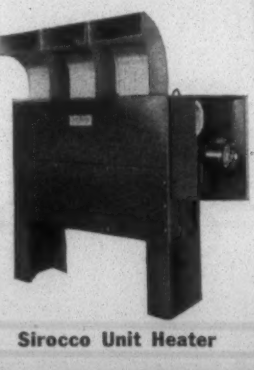
"I had an idea we could get better heating results with Venturafin Unit Heaters," says J. A. Burchik, maintenance man. "They sure save us money."

HEATING SATISFACTION GUARANTEED BY ACCREDITED CONTRACTOR-DEALERS

Don't take a chance with ordinary Unit Heaters when you can buy genuine American Blower Units at no extra cost. Just call in the nearest American Blower accredited contractor-dealer and have him make a complete check-up of your equipment. He is a reliable business man and will guarantee heating satisfaction and every bit of work that he does for you. By going to an American Blower contractor-dealer, you are assured of getting not only the finest heating equipment but the best possible heating service at the lowest costs.



Venturafin Unit



Sirocco Unit Heater

HIGH VELOCITY
For Hard-To-Heat Plants

To carry heat long distances requires high outlet velocities and correct design. You get both in the Venturafin Unit Heater with the famous wide area epicycloidal wheel, and you get it with a minimum of noise.

LOW VELOCITY
For Smaller Areas

You can know in advance just how quiet Venturafin Unit Heaters will be by consulting the sound tables in the catalog. This low velocity unit has a low tip speed, low outlet velocity, and quiet operating qualities that are not duplicated in any other heater.

FOR LARGE AREAS

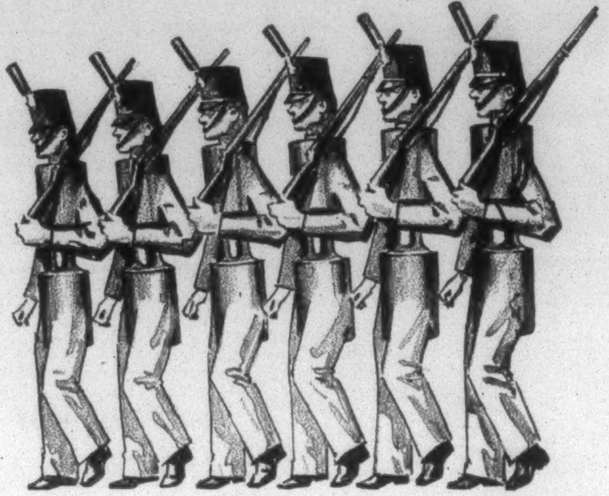
For airplane hangars and other large industrial areas that require a tremendous amount of heat, Sirocco Unit Heaters have proved invaluable. For complete data on the application of Sirocco Unit Heaters in any area, phone or write the nearest American Blower Branch Office.

AMERICAN BLOWER CORPORATION
6000 Russell St., Detroit, Mich.
Division of the American Radiator and Standard Sanitary Corp. • Canadian Sirocco Co., Ltd., Windsor, Ontario.

AMERICAN BLOWER

Industrial Unit Heaters Keep You Comfortable

NATURE DOESN'T MAKE GILLEATHER UNIFORM, *BUT* WE DO



The raw materials used in leather substitutes are supplied by Nature. Only to the extent that they are processed by man are they man made.

The raw material for Gilleather is also a product of Nature, but the finished Gilleather is just as much man made as is any substitute, because it's SELECTED for uniform grain, carefully tanned for uniform finish, accurately shaved for uniform thickness, and expertly finished for maximum wear.

Gilleather is in effect made by man by scientifically controlled methods. Therefore it's uniform.

But unlike man made substitutes it can also pass ALL requirmements of the 12 POINT TEST.

For best results and lowest cost IN THE LONG RUN, use Gilleather.

GILL LEATHER COMPANY, SALEM, MASS.

SHEEP and CALF SKIN GILLEATHER for TOP ROLLS

THE 12 POINT TEST

1. Does it automatically stop spinning when it makes bad yarn?
2. Does it retain its cushion and resiliency in low temperatures, as over the week-end in winter, and as long as it will draft?
3. Does it resist flattening or fluting over the week-end?
4. Does it require a standard diameter arbor, thus eliminating costly changes?
5. Is it impervious to excessive humidity?
6. Does it produce a minimum of eyebrows?
7. Does it eliminate lap-ups as long as it will make good yarn?
8. Does it eliminate cockled yarn, other factors being correct?
9. Does it produce yarn of maximum strength for a given staple, other factors being correct?
10. Does it require a minimum of attention?
11. Does it function properly ALL the time until worn out?
12. Has time proved it any better than the 600 odd "improved" roller coverings that have come and gone?

Southern Representatives:

Gastonia, N. C., W. G. Hamner.
Griffin, Ga., Belton C. Plowden.
Greenville, S. C., Ralph Gossett.
Greenville, S. C., W. J. Moore.
Dallas, Texas, Russell A. Singleton.

MEMBER AUDIT BUREAU OF CIRCULATIONS

TEXTILE BULLETIN

Vol. 55 September 1, 1938 No. 1

The Southern Provinces

By D. E. Mocrat

A Southern Democrat's Views on "The Report on Economic Conditions of the South"

IN the land of degradation and humiliation, we find our personalities and possessions overwhelmed by the sweeping, blistering, blighting and bombastic report of the National Emergency Council.

The South of romance and poetry, of cotton and tobacco, of pure races and high idealism is held up to ridicule with its poverty and disease, with its ignorance and illiteracy, with its dearth of desirable national qualities.

To read the report is so depressing and distressing, we feel that we should only be a dependency and not a part of the nation. We should fawn and pay tribute to a great and benign protectorate for its kingly and kindly benefactions.

The North, the East, the West are great areas of progress and promises being retarded, however, in their national march to Paradisia by the slothful, wasteful Southern area.

The picture is pitiful and pathetic. It is such that only would and could be noticed by a big-hearted, social-minded ruler, who views the plight of his vassals sympathetically.

An so the story could go on and on, evoked by our emotion of self-pity and introversion until an inferiority complex so strong as to overcome us would or might drive us into a dictatorship or a totalitarian state.

Such propaganda as this report does not alarm those who are able to look behind it and see the motives. Such "stuff as this" nauseates the intelligent and stirs up righteous indignation in the heart of the cultured and able leaders of the area.

We have intentionally called this report "propaganda and stuff" because propaganda is just enough truth to convey the idea and conceal the motive of the promoter and does not tell the entire truth. It has a sinister idea not evident in its reading, and yet dominantly evident in the background. We call it "stuff" because, for a sinister motive of political advantage it is an attempt to stuff a destructive idealism down a nonsuspecting and hopeful constituency who are not skilled or experienced in the art or strategy of politics.

This blast of the NEC is a blast of rams' horns and a breaking of pitchers around the walls of the stronghold of real democracy. It is a Trojan Horse standing outside our Southern domain, appealingly seeking entrance with its destroying ideals sheltered and secluded within its bowels.

These are rather strong statements to use, especially when we have been described as being so low in the social and economic scale of national life. Perhaps we should be making obeisance to the powers that be, and with faces prone, pay homage to this group of Southern saviors and political plunderers.

We speak of Southern saviors because those whose names appear authenticating the report are dreamers and idealists for the most part. They little sensed the significance of the message prepared for them to approve. They were the cat's paw for the political plunderers, who, with premeditation and malice, aforethought, prepared this manifestly unfair and unethical bulletin for furthering their own selfish and political theories and ambitions.

The South too often and too long has been treated as a province or dependency. It has been exploited beyond belief in most of its history. It has been unprotected and drained of its wealth for at least one hundred years. It has always been the strong-

INDEX TO CONTENTS

Processing and Dyeing of Rayons 11
Air Conditioning for the Cotton Spinning Room . 14
New Equipment 20
Personal News 22
Editorial 26
Index to Advertisers 28
Markets 32
Master Mechanics' Section 34
Visiting the Mills 46
Southern Sources of Supply 48

hold of democracy and during the long reign of the Republican party, it could expect nothing and even in Democratic administrations the solid South needed no favors or patronage to hold it in line and so favors and patronage went elsewhere.

Scene in Southern Cotton Mill Village

Under the New Deal in which the balance of power might reside in the South, the two-thirds rule was abrogated so that the Southern block which in old days was so important might be weakened now in the new political alignment.

The NEC Report is not primarily social or even economic in its background. It is soaked in the blood of selfish and promotional politics. It is a step toward the next national convention and by subterfuge, a sop for Southern support in the ride of the headless horseman of Knickerbockers' town on the Hudson.

The South for a long while regarded as an agricultural area, therefore, as a furnisher of raw materials and a consumer of manufactured articles. This advent of the South into the industrial field and its pre-eminent success in textiles, tobacco, furniture, paper pulp, and other incipient lines, causing many industries in other areas to transfer, or to locate in the South, renewed the old sectional economic strife and since other areas were more populous than the South, and since those other areas dominated the political thinking of the nation, the South alone and undaunted has attained its prowess and progress in spite of conditions and not because of any political or governmental preferment or favors.

The wage and hour act was largely born in a bed of sectional jealousy and of punitive parentage. After long bickerings and strife, the act was written with a semblance of fairness, which is finally dependent upon its administration.

The act is now about to become operative and it may or may not have unfavorable political repercussions. Its administration may or may not hamstring the South as much as some sections or schools of political thought anticipated.

It may affect labor adversely, both organized and unorganized, so the crafty leaders conceived the idea of the NEC.

Fifteen Ills Needing Correction

The members of political strategy board met and decided that instead of one ill, there are at least fifteen ills needing correction in the South, hence if or when the wage and hour bill should react unfavorably, the administration can point with confidence to the causes not being in the administration of this law but because of one or more of these other fourteen ills.

The administration is attacking on "a thousand fronts." There is no one panacea. Splendid politics, this is. The curing the ills of fourteen fronts much less "a thousand fronts" is an impossible attack but leaves a fit alibi for failure and constitutes a shifty and comfortable political position.

Southern Cotton Mill Children

The report of the NEC seems to be a diplomatic poli-

(*Continued on Page 43*)

The Dyeing and Finishing of All-Rayons

Part 1-Crepe Fabrics

By Carl Bartell

Introduction

ALL-rayon (viscose) crepe fabrics used for solid shades and printing have changed their constructions to a marked degree during the past few years; this may be attributed to business conditions and to the many changes occurring in the rapid growing rayon weaving and finishing field.

The different types of goods that have been popular over the past few years have been the lighter weight qualities of Canton crepes with constructions using 150 denier bright viscose yarns in filling and warp. Other types have been the lighter weight goods in the Sand and Mossy crepes with constructions using 100 denier viscose rayon in the warp and filling. These types have twisted yarns in either warp or filling and on some styles, there is twisted yarns in both. (Canton crepes' filling yarns were twisted while there were twisted yarns in both warp and filling on the Mossy and Sand crepes.)

The French crepes that now enjoy wide popularity, have seen the greatest change in their constructions. They have changed from moderate weight goods of 110 to 120 ends in the warp and 76 to 80 picks in the filling to lighter weight goods ranging from 76 to 90 ends in warp and less in the filling. These crepes are made of delustered 100 denier viscose yarns without twist in either warp or filling yarns. The lack of twist in this type of fabric would give a flat effect on the older processng operations where the goods possessed twisted yarns and were of heavier constructions. The plant textile chemists and dyers have worked out newer processing methods to produce the necessary crepe or pebbled effect on these goods, though this trend toward lighter weight goods has created many a headache for the dyeing and finishing plants.

Preparation Prior to Dyeing

Many plants prefer to have all goods beamed as they run through the subsequent operations of desizing, causticising, and boil-off freer from creases when delivering from a shell than off of folded goods over an opener bar.

The first operation of desizing is one of vast importance to all wet processing operations that follow, as well as finishing and careful identification of sizing ingredients used in the sizing on grey goods has proven of great value and profit in the processing of these goods.

Through definite knowledge of the materials in the sizing on the grey goods, the desizing bath can be prepared properly and this will help to eliminate delays that may occur through the necessity of repeated boil-offs and scouring operations, and additional penetrants that would be required in the dyeing if the sizing materials were not properly solubilized in this desizing operation.

SIZING IDENTIFICATION TESTS—(X)

Test chemicals used and reactions obtained

Sizing material under test	Iodine Solution	Lead Acetate	Fehling's Solution	Formaldehyde Solution	Tannic Acid
Starch	Blue color Density increases as to amount in size. Fades on heating				ppt. forms
Dextrine	Browning Purple color				
Vegetable Gums Tragacanth and Gum Arabic	Faine blue color forms due to starch	White opaque or jelly-like ppt.	Blueish color or bluish-white in alkaline solution		
Casein				In sulfuric acid bath gives purplish color or ring	
Glue and Gelatin			Violet color forms	In acid bath brown color forms	Cloudy ppt. forms

If only starch, dextrine or vegetable gums are present, then the goods are passed through a desizing bath containing an amylolyctic (amylease) compound at 110° F. to 140° F. on a quetsch or paddler, and allowed to stand for one to four hours.

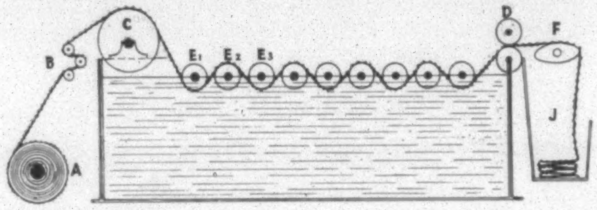
Whenever casein, glue or gelatine is present in sizing, then a protease or proteolytic compound is added to desizing bath.

A satisfactory desizing bath for starch and dextrine sized goods is prepared with:

Formula No. 1—10-25 lbs. Amylolyctic enzyme (according to maker) 10-15 lbs. Wetting out agent.

Make up to 50 gallons at 110-140° F.

For goods containing gelatine, casein and glue, it is best to use Formula No. 1 and add to it proteolytic enzyme, usually 10-20 pounds is sufficient, and make up to 50 gallons at 110-140° F., according to recommendations of enzyme makers.



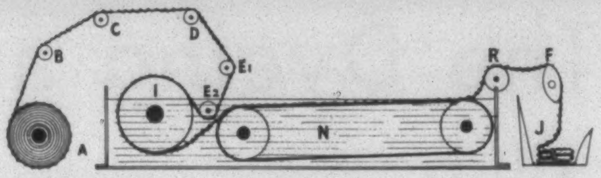
A—Goods on shell
B—Opener for goods
C—Entering Roll
E', E 2, 3—Small carrying rolls for goods in bath
D—Squeeze rolls at delivery end of box
J—J-box
F—Folding Reel

See A.A.T.C.C. 1937 Year-Book, page 268-272, for more detailed tests as to identification of sizing compounds and materials.

List of *Desizing Agents* that are suitable for this purpose.

Name of Product	Type of Product	Application
Aktivin	Organic chlorine compound Proteolytic and amylolyctic	Used on all types of sizes
Degomma—20	enzymes	Used on all types of sizes
Degomma—4GS	Proteolyctic enzymes	Used on gelatine, casein, etc.
Protzyme	Proteolyctic enzymes	Used on gelatine, casein, etc.
Exsize	Amylolyctic enzymes	Used on starches, dextrine, gums
Rapidase	Amylolyctic enzymes	Used on starches, dextrine, gums
Diatase	Amylolyctic enzymes	Used on starches, dextrine, gums

In some cases where the grey goods contain only dextrine or gum arabic in the size used, a paddling on the quetsch in warm water at 120-140° F. is sufficient to solubilize these agents so that they can be removed in subsequent processing operations. This wetting out and allowing the goods to stand for a few hours starts the shrinkage evenly, which is quite helpful for good work. Many plants prefer that the goods be run off of a shell through the quetsch and placed back on shell for the causticising and boil-off operations, though this is not followed always. The goods are folded onto J-boxes or forms and then opened up as they are fed into these latter operations.



A—Goods on shell
B-C-D-E'-E 2, etc.—Rollers or bars for goods
I—Immersion drum
N—Inlet for carrying impregnated goods slowly through caustic bath
R—Roll for removing impregnated goods
F—Folding reel
J—Receiving box

Boil-Off

The two general methods for handling the grey goods are as follows:

1—Prepare goods in folds or loops with selvage tie-strings, poles placed through strings, the goods immersed into caustic bath for five to twenty minutes, removed and rinsed cold preparatory to entering the boil-off bath.

A variation of this method is to not use tie-strings but place the folded or looped goods on bent sticks, lower the goods into caustic bath for necessary time, remove and rinse cold.

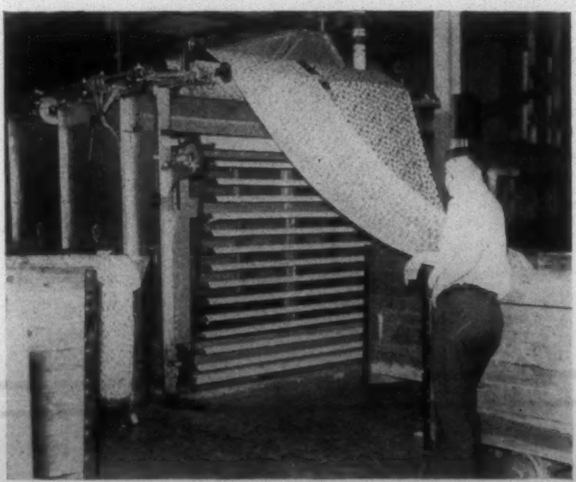
2—The continuous method in which several processing units are hooked together in series; these units being the caustic treatment box, with carrier or J-box and the scouring or washing boxes containing the boil-off solutions.

The older method of handling the goods in the folded form is not as widely used now due to the lighter weight goods that are being processed. These light weight goods do not stand up under this strenuous treatment and tend to become frayed and break marks occur throughout the fabric whenever it is necessary to use the older method.

Caustic Treatment

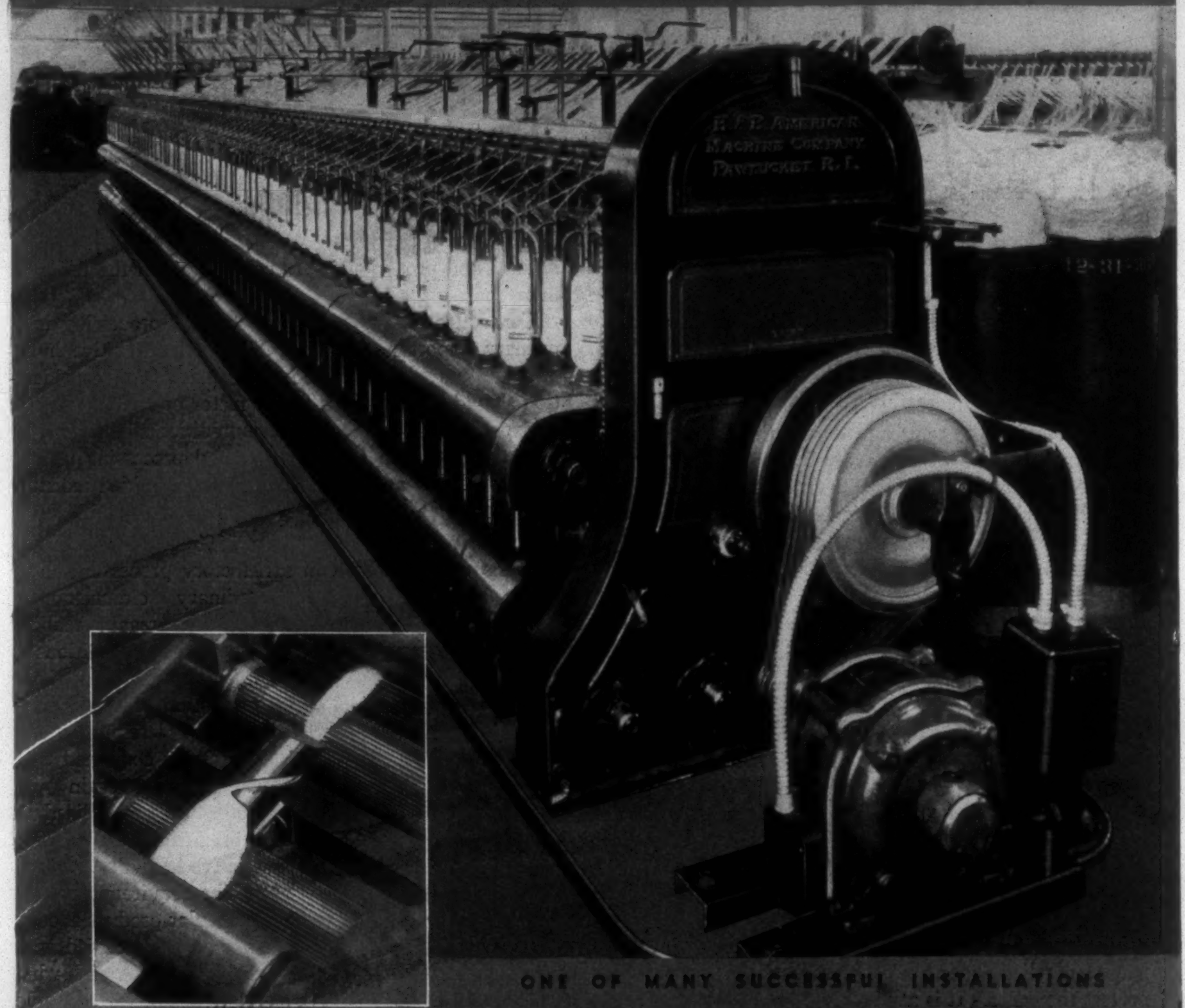
There are several types of machines in use for treating the goods in a caustic bath. These are:

1—Iron box ten to twenty feet long and four to six feet wide, or wide enough for goods to travel the length of it without laying against the side. This box is fitted



(Continued on Page 40)

H & B HIGH-DRAFT ROVING SYSTEM
for ONE or TWO Process Roving



ONE OF MANY SUCCESSFUL INSTALLATIONS

APPLICATION - Usually to intermediate or roving frames, number of rollers (4 or 5) being determined by drafting requirements.

METHOD - Takes sliver from drawing frame and drafts up to 35, producing up to 6 hank roving in one operation for regular or long draft spinning. To produce finer roving the usual practice is to go from the high-draft frames to conventional 3 roll jacks or fly frames.

RESULTS - Successfully operating in over 50 mills, some of which have already placed repeat orders.

THE HEART OF THE SYSTEM -

Patented Scroll Condenser (made of Bakelite to eliminate static) which gives sliver a half turn of twist and folds thinner edges toward thicker center in preparation for next drafting operation.

H & B AMERICAN MACHINE COMPANY
- - - *TEXTILE MILL MACHINERY* - - -
PLANT AT PAWTUCKET, RHODE ISLAND

BOSTON OFFICE:
151 Devonshire Street
ATLANTA OFFICE:
815 Citizens & Southern
National Bank Building
CHARLOTTE OFFICE:
1201-3 Johnston Building

Some Pointers on Air Conditioning For The Cotton Spinning Room

By H. L. Kempaner*

SINCE spinning is nearly the final process, it is important that the moisture content at this stage be most favorable to an absolutely even drafting; to the development of that peculiar clinging tendency of fibres which enables the twist to pack them closely together, evenly and smoothly.

While taking the twist and during the actual spinning the yarn is being whirled rapidly by the traveler and the spindle. During this period it is exposed to the air in the immediate vicinity of the spindle which is considerably hotter than the surrounding room air. Therefore, freshly spun yarn contains a smaller amount of moisture than that of the roving entering the draft rolls of the spinning frame. This difference, however, is slight and practically constant.

The humidity of the spinning room, aside from its effect upon processing, is a very important factor in its effect upon regain. An excellent opportunity presents itself in this department for securng regain in the product which may be relied upon to protect the seller. It is at this point where the manufacture should prevent the loss of any part of the value represented by the material itself, and the labor which is expended upon it. If this precaution is neglected, much of the profit to which the spinner is entitled may be lost.

Not only will the production suffer, but an excessive dry weight of material will be required in each hank, to keep the yarn up to count, if the spinning room humidity is too low. Proper regain is the legitimate substitute which the spinner should provide, for this unnecessary and excessive dry weight. Legitimate for this reason: The yarn will not only gain thereby in strength and other desirable qualities, but will proceed to the user with a natural and proper moisture content which the user will more than welcome.

Consequently, we find that although processing is of primary importance in determining what relative humidities should be maintained, some measure of consideration should also be given to the factor of regain.

Experience has shown that humidities slightly higher than the minimum required for good processing usually offer additional advantages by virture of added moisture in the material.

A relative humidity of from 55% to 60% ordinary temperatures will result in satisfactory processing under ordinary circumstances, but, the regain realized under these conditions is likely to fall short of the protection which the spinner should require. Best processing combined with satisfactory regain will ordinarily be realized at ranges from 60% to 70% relative humidity.

The requirements of a particular product should, however, be studied with care, to ascertain what relative humidity would produce the best results.

It might be advisabe to add a word of caution here, against relying solely upon air conditionng a spinnng room for producng the desired final regain in the finished product. The regain actually realized by favorable spinning room conditions should be augmented by proper conditoning during the subsequent processes, such as twisting, spooling, winding and packing for shipment. Having exercised this precaution, it will then be safe to allow the yarn as freshly spun to run somewhat on the light side as to count, provided the dry weight is mantained sufficiently high to insure correct count when the ultimate regain has been attained, namely 8½%.

It is important that humidity should not be too high

(*Continued on Page 16*)

---

*Carrier Corp.

INSTITUTE FOR
RESEARCH IN
SOCIAL SCIENCE

Are You Watching
Small Expenses So Intently
At the Spigot
You Fail to Notice that
the Bunghole of Waste
Has Blown
Wide Open?

That is What You Do

When You Buy Something because it is Cheap that will Cause Trouble in Your Mill

When You Buy Loom Repair Parts that Do Not Fit

When You Buy Bobbins that Cause Slough-offs and Make Seconds

When You Use Bobbins that Cause Filling Breaks

When You Buy Shuttles that Do Not Thread-up Properly

When You Use Shuttles that Do Not Properly Position the Bobbin

DRAPER CORPORATION

Atlanta Georgia   Hopedale Massachusetts   Spartanburg S C

Some Pointers On Air Conditioning For The Cotton Spinning room

(*Continued from Page 14*)

for cotton spinning, though proper humidity is necessary. If humidity is built up gradually, the improvement noted will practically cease beyond a certain point, depending, of course, on the fineness of yarn, age and staple of cotton and other local conditions. If the humidity is increased beyond this point, the yarn begins to spin poorly, especially where fine yarns are concerned. Coarse yarns will usually support a greater increase in humidity without unfavorable results. The relative delicacy of fine yarns probably accounts for its especial need for humidity as insurance against static electricity. Its susceptibility to bad effects from excessive humidity as compared to coarse yarn is probably due to the more bulky roving used for coarse, and the greater rapidity with which it is spun, allowing less time for the effects of atmospheric moisture to operate.

The above statements, however, are not always true, since different mills find that humidities are being maintained exactly opposite in the processing of fine and coarse yarns.

For example, in mllis which produce sales yarn in great variety, they seem to rely on higher humidities for spinning coarse yarns than fine. Entirely opposite to this, in cloth mills whose machnery is adapted to the production of their staple yarns, fine yarns are usually spun under higher relative humidities than coarse yarns.

However, among those who are engaged in research on this subject, the belief seems to prevail that the finer yarn with all things being equal, will spin best at the higher humidity. Many practical manufacturers, however, hold that coarse yarns require the higher humidities. These differences in opinion may be attributed to the irregularity of conditions which exist in different factories and in different departments of the same factory. For instance, it is not uncommon to spin two different yarns from the same drawing sliver or comber sliver by differentiating in the roving processes, but in any such case, the material clearly must be better suited to one product than the other.

In selecting stock for spinning different yarns in the same factory, it is common to use a superior cotton of good staple for fine yarn and a material of lower quality for coarse. Since the latter needs the assistance of increased surface friction for tenacity in spinning, it would be quite likely to require a higher humidity than the finer yarn which has the advantage of better cotton.

Furthermore, the humidity requirements in the spinning room might depend very directly upon the quality and suitability of the roving available. For example, if the roving should be of good quality and the carding and roving departments well conditioned, the roving would reach the spinning frame in a favorable condition, and this fact alone would go far toward assuring good spinning. Consequently, if the reverse were true and the roving was dry and uneven, it would be rather difficult to conclude what humidity would produce the best results.

From these observations, it would indicate that difficulties would arise out of prescribing definite conditions to fit every case. The manufacturer should seek to eliminate such other disturbing factors as there may exist before attempting to determine what relative humidity is most suitable for his product.

Fluctuating Humidity and Temperature—Causes and Effect

A spinning room is exposed to variations in relative humidity more than any other department of a cotton mill. The temperature tends to rise as the heat of the day increases from a minimum in the morning to an afternoon maximum and as the machinery warms up. This rising temperature naturally causes the relative humidity to lower rapidly. Consequently, this creates a rapidly increasing demand for moisture to maintain the desired relative humidity and keep the room temperature where it should be normally. These fluctuations in relative humidity within a Spinning Room effect belt tensions, machine speeds and power consumption; spindle speeds, actual or effective draft, twist per inch, amount of fibre lost as fly regain. Variations in the quality and count of the yarn always follow closely any marked variation in the relative humidity.

For instance, assume that the relative humidity is favorable: The spinning room is running smoothly with as low a twist as the product permits, and a draft and roving weight which produce the desired count. If the humidity falls off for any considerable period, the work begins to run poorly, ends begin to break down, fly and waste increase, the yarn becomes weaker, uneven and off count. These troubles can be relieved somewhat by increasing the twist and altering the draft, but the yarn will not be as even nor as strong as before. Waste still continues to be excessive. A considerable amount of distinctly inferior product will have been manufactured before the change in draft and twist becomes effective. If the humidity returns again to a higher value, the yarn again quickly runs off weight and once more draft and twist must be altered.

Under varying atmospheric conditions, corrective measures must necessarily lag considerably behind the development of the fault. The quality of the product cannot be consistently constant but must hover above and below an average which represents the result of the spinners' best efforts to compensate for the changing conditions.

Another point of importance is the fact that horse power usually runs high in the spinning room. Due to modern production methods, the brake horse power of machinery has been stepped up considerably. In a great many mills 5 and 7½ horse power motors normally ran considerably below their normal rating and have been stepped up to consume all the overload the present motors would handle; without making changes to existing air conditioning capacity.

Another point of consideration is that fact that usually in these spinning rooms, the frames are so laid out that the drive ends are back to back providing alleyways which are literally "hot spots" since a large portion of the motor heat generated is concentrated in these alleys.

Even when the spinning room has ample capacity, the relative humidity often varies 20 to 30% in each working day, with ordinary supervision and manual rontrol. Consistent quality and quantity of product requires the stabilization of adequate evaporative capacity, proper air circulation and automatic regulation.

Proper Air Conditioning for Spinning Rooms

It would appear from the foregoing that the type of system to overcome these hazards would be the combination type air conditioning system which would combine the best advantages of both a straight central station system and an atomizer system and designed to function as a unit to provide adequate evaporative capacity, proper air circulation-distribution and automatic regulation.

Since the capacity of a system is based on the heat liberated within the room from the various sources such as: walls, glass, roof, occupants, horsepower of motors and lights and since the horsepower is usually the major portion of this load, isn't it natural to distribute this air conditioning capacity in such a manner that it will be more concentrated where the heat load is also concentrated? Only in this manner can spinning room conditions be made more uniform and "hot spots" ironed out.

Furthermore, with an atomizer or spray type system although adequate capacity is provided as a whole, this capacity cannot be distributed in such a manner as to eliminiate "hot spots" without "wetting down." Consequently, fluctuations still exist in room conditions with this type of system even though the capacity is sufficient.

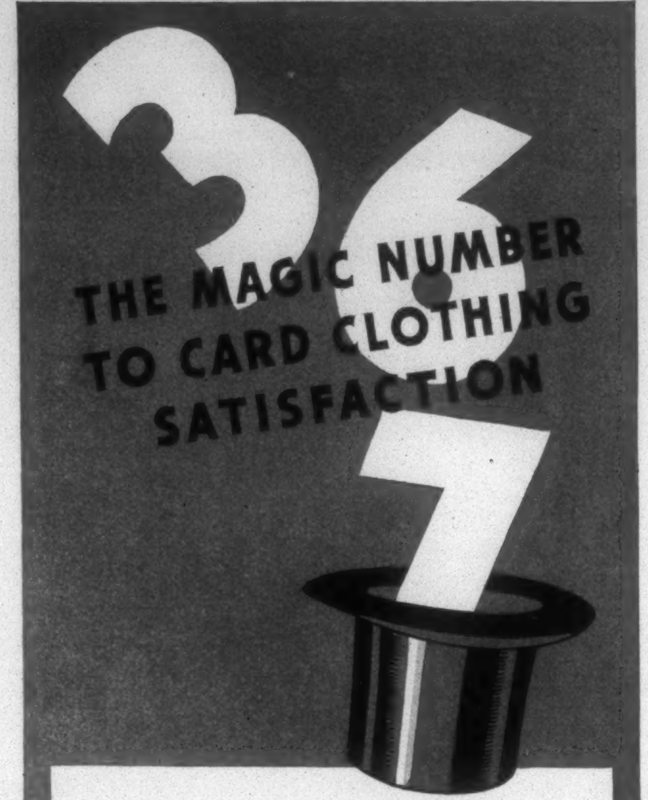
It would appear then, that the manufacturer should use some discretion in the type of equipment selected for the various rooms, as each type has a definite place where it will serve to best advantage.

The combination system would provide various advantages for this type of installation.

1. Proper distribution of air would provide for more uniform room conditions, eliminating "hot spots."
2. The dry bulb temperature of the room during summer would be considerably lower and room air would be in circulation—thereby giving occupants a greater degree of comfort.
3. During the summer all outside air would be introduced through the apparatus, thereby providing maximum cleanliness.
4. Positive circulation of air would result and would not be dependent on window openings.
5. More uniform conditions would result at the point of operation and the differential between this and the general room conditions would be reduced to a minimum.
6. The control of this type of system would be tremendously flexible. During the summer time humidity would be to shut off atomizers and if relative humidity still climbed, volume dampers and reheaters would then function. During periods when the atomizers were shut down, the system would operate as a complete central station job. Thereby providing all the benefits of this type system.

During winter operation, approximately only one-half to two-thirds the capacity would be required, consequently the atomizers would be completely shut off and the system would operate one hundred per cent as a straight central station system.

During periods when machinery was shut down and over week ends when it is desirable to maintain humidity, atomizers could be operated independently.



3 refers to three manufacturing plants in Fall River, Worcester and Philadelphia. These plants, in widely separated localities, assure an uninterrupted supply of Ashworth products.

6 refers to six Ashworth repair shops in Fall River, Philadelphia, Charlotte, Greenville, Atlanta and Dallas. Each plant has adequate machinery, personnel and experience to render efficient service in the reclothing of top flats and the rewiring of lickerins. Furthermore the convenient location of these shops makes for prompt deliveries.

7 refers to seven Ashworth distributing points at Fall River, Worcester, Philadelphia, Charlotte, Greenville, Atlanta and Dallas. We carry adequate stocks of standard constructions in all these cities so that Ashworth Products are readily available to the whole textile industry.

Ashworth Products, made by pioneers in the card clothing industry, are also efficient in performance.

ASHWORTH BROS., INC.
Woolen Div.: AMERICAN CARD CLOTHING CO.
Fall River, Worcester, Philadelphia, Charlotte,
Atlanta, Greenville
Southwestern Representative:
Textile Supply Co., Dallas, Texas

PRODUCTS AND SERVICES: Card Clothing for Cotton, Wool, Worsted, Silk and Asbestos Cards and for all Types of Napping Machinery . . Brusher Clothing and Card Clothing for Special Purposes . . Lickerin Wire and Garnet Wire . . Sole Distributors for Platt's Metallic Wire . . Lickerins Rewired and Top Flats Reclothed.

Ashworth
PIONEERS IN
CARD CLOTHING

Although the cost of this type of system would be normally higher than for an atomizer type system, the cost would still be appreciably less than for a straight central station system.

Also, since some mill owners object to large ducts running near the ceiling, this type system does have duct sizes less than that required for the straight central staton job.

The power cost would be slightly higher.

However, the benefits and advantages of this type system would far surpass the slightly increased first cost and operating cost.

In view of the fact that air conditioning got its first start in a cotton mill some thirty odd years ago, it would seem that cotton mills would still remain a leader in its development as compared to other textiles, since cotton is also the oldest known textile. However, a reverse picture, in general, actually does prevail. Newer textile mills such as silk and rayon, really take the lead and have surpassed "king cotton" in many respects.

Silk mills are, in fact, resorting to refrigeration to provide definite conditions of comfort and of processing within their departments. Rayon mills are installing straight central station type air conditioning systems in preference to local atomizer type humidifiers.

These mills realize the trend of the industry and also the many benefits derived from these types of systems.

All textile mills are gradually being forced to air conditioning as the public becomes more air conditioning minded. Why not make necessary changes and adjustments to bring these plants up-to-date now and obtain the advantages which will be brought about? Other industries have done this and are now doing it, why not textiles—cotton mills in particular.

It is apparent that the cotton textile mills are not keeping in step with the times. Other textiles are taking advantage of everything air conditioning has to offer. Cotton mills in particular, are taking only a minor portion of the full advantages which are available today in this industry. The minor advantages were available several years ago, and unless full advantages of the air conditioning industry are realized by the cotton manufacturers, they will continue to remain by the wayside and allow newer textile industries to forge ahead of them.

Bedspread Manufacturers Form Association

Representing more than 70 per cent of the nation's bedspread makers, the organization of the Tufted Bedspread Manufacturers Association was completed in an enthusiastic meeting held in Dalton, Ga., bedspread center, August 21st.

Sixty bedspread manufacturers from the Dalton district, the Carolinas, Alabama, Tennessee, and the New England States assembled in the city hall here and elected O. C. Moore, veteran bedspread official, as president of the association, adopted constitution and by-laws, selected other officials and named committees to carry out the work.

W. P. Fickett, president of the Textile Fabrics Association of New York, presided at the meeting. Although almost unanimously urged for the executive post with the association, Mr. Fickett, for business reasons, declined to accept. He had been the guiding genius in the organization of the association, which has for its purpose the mutual benefits of the industry, to foster the interests of its members, maintain a code of fair trade practice rules enforceable by the Federal Trade Commission, to halt the "piracy" of patterns and to represent the bedspread manufacturers in the setting up of wages and hours for the bedspread industry.

The initial meeting of the group was held in New York when a representative group of manufacturers gathered at the Hotel New Yorker, selected by Mr. Fickett as chairman of the meeting, outlined proposals, offered suggestions and named a temporary executive committee to meet with manufacturers in Dalton to complete the organization.

An executive committee was then named, composed of O. C. Moore, of Polly Prentiss, Inc., Sumpter, S. C.; B. J. Bandy, of the B. J. Bandy Co., Dalton, Ga.; A. J. Carter, of Carter Bros., Chattanooga, Tenn.; John T. Duncan, of the Etowah Manufacturing Co., Canton, Ga.; Phil Phillips, of Dalton and Easton, Pa.; Walter M. Gotsch, of the Walter M. Gotsch Co., Chicago; Jack Strain, of Redwine and Strain, Hill City, Ga.; Clarence M. Jones, of C. M. Jones & Co., Calhoun, Ga.; Fred Westcott, Cabin Crafts, Dalton, Ga.; Harry Looper, Looper Inc., Dalton, Ga.; and Chester Underwood, of J. T. Bates Co., Dalton, Ga.

Mr. Moore was then elected president of the association; Fred Westcott, vice-president; A. J. Carter, treasurer, and J. T. Duncan, secretary, the latter subject to confirmation later.

Offices of the association will be located in Dalton, which is the recognized center o fthe bedspread industry.

A Fair Labor Standards Committee will be composed of J. T. Duncan, B. J. Bandy, J. T. Bates, Walter M. Gotsch and Fred Westcott, who were appointed representing geographical positions. They will keep in touch with the administration of fair labor standards in Washington, keep manufacturers informed as to the status of the act and represent bedspread manufacturers at wages hearings.

A membership committee will be appointed later by Mr. Moore.

At the conclusion of the meeting 33 manufacturing concerns had signed up as members of the association. Among these were:

Carter Bros, Chattanooga, Tenn.; Polly Prentiss, Inc., Sumpter, S. C.; Kenner, Brochman & Schloss, Dalton, Ga.; Colonial Coverlett, Chattanooga, Tenn.; L. D. Bunton; Southern Craft, Rome Ga.; Lawtex, Inc., Dalton, Ga.; Blue Ridge Spread Co., Dalton Ga.; Scheuer Bedspread Co.; King Cotton, Dalton, Ga.; Etowah Manufacturing Co., Canton Ga.; Dellinger Spread Co., Rome, Ga.; Burrowes Manufacturing Co., Hendersonville, N. C.; Shapiro & Sons, Dalton, Ga. and Pennsylvania; Walter M. Gotsch Co., Chicago; C. M. Jones & Co.; J. M. Muse; LaRose Bedspread Co.; O'Jay Bedspread Co., Calhoun, Ga.; Sumpter Spread Co.; Homecraft Spread Co.; Tullahoma Bedspread Co., Tullahoma, Tenn.; Normandie Bedspread Co.; Evans Mfg. Co.

World's Largest Conveyor Belt At Grand Coulee Dam

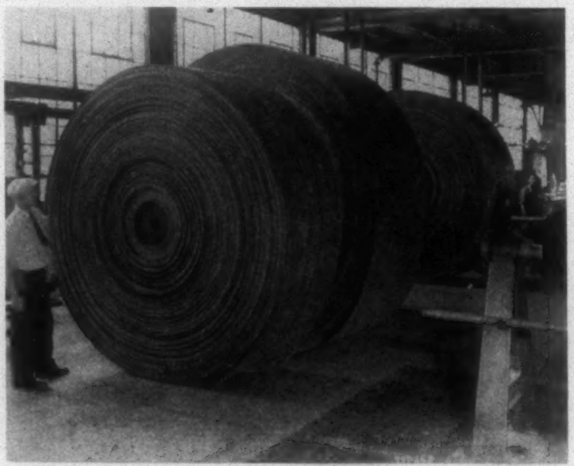
Foreward to a new volume in the history of mechanical conveying of materials by rubber belt was written in July, when at Grand Coulee Dam, State of Washington, began operation of the largest conveyor belt ever manufactured, a product of the Mechanical Goods Dvision of the Goodyear Tire & Rubber Co., at Akron, Ohio.

Operating on centers of 4,850 feet, the gigantic belt measures 9,700 feet long, approximately twice the length of the longest previous conveyor belt ever employed.

Of 48-inch width and eight-ply construction, this gargantuan belt was manufactured in eight separate pieces weighing 10 tons each to facilitate its handling and transportation, and shipped in rolls approximately 10 feet in diameter. During installation the sections were vulcanized into one continuous endless belt weighing 80 tons.

A veritable "rubber railway," the completed belt required 30 tons of rotton and 50 tons of rubber for its manufacture. In action, the belt conveys coarse stone six-inch and minus, which will comprise the aggregate for the huge dam that ultimately will span the colorful Columbia River, a distance of approximately one mile from source to dam site destination.

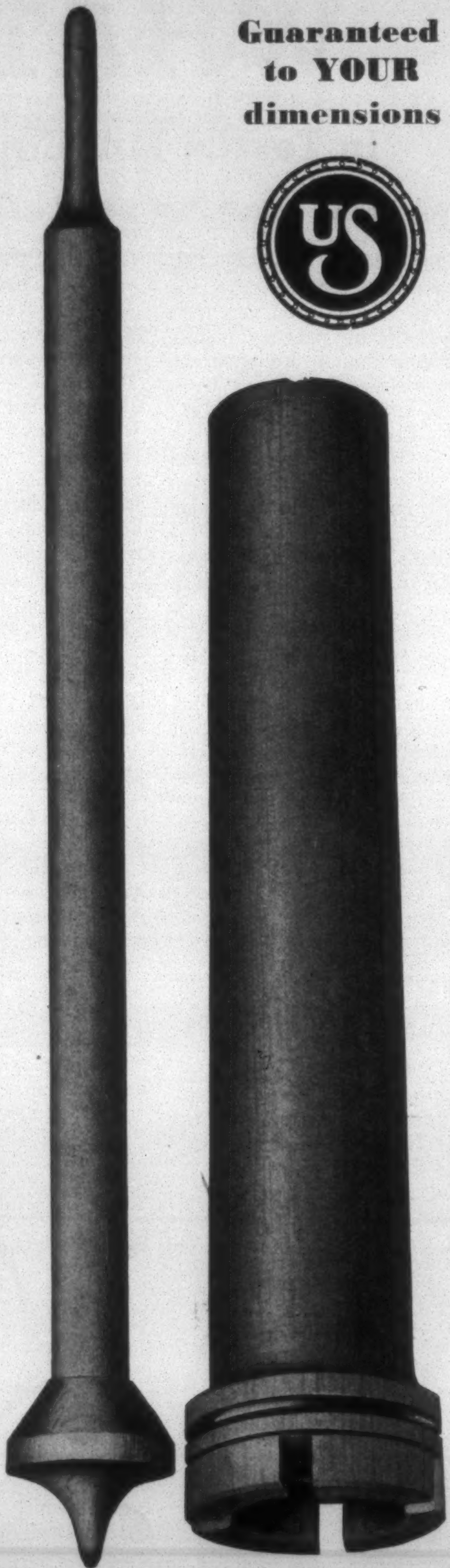
In summer, when bearing friction is at minimum, approximately 90 horsepower are required to put the empty belt in motion. Once the belt is fully loaded approximately 50 horsepower are required to hold it back to the desired speed of 450 feet per minute, as the installation is what is known as a "downhill" job.



Three sections of world's largest conveyor belt for Grand Coulee Dam leaving the belt room at Goodyear's Akron, O., Mechanical Goods plant to be prepared for shipment.

In winter, approximately 125 horsepower will be required to start the belt when empty, 50 horsepower will be required to keep it moving, instead of being used as a retarding force as is the case in summer operation.

In addition to the economical aspects which are quite obvious, more general adaptation of long distance rubber belt conveyor systems would logically result in a vast increase in the nation's tonnage consumption of both rubber and cotton.



Guaranteed to YOUR dimensions

US

Every Bobbin Gauge Tested

U S Bobbin & Shuttle Co.
Monticello, Ga.
Charlotte—Greenville—Johnson City

WHAT'S NEW

In Textile Mill Equipment and Processes

New Textile Tools

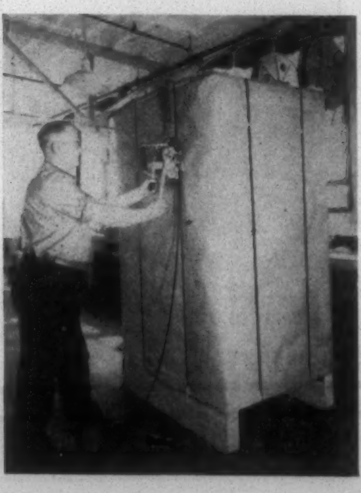
The Duro Metal Products Co., 2663 N. Kildare Ave., Chicago, Ill., have put out a number of new tools for use in the textile industry, including: New combination box open end wrenches, especially designed by a textile mill superintendent in North Carolina. The feature of these wrenches is that they have the same openings on both ends; one being an open end wrench with an extra long handle, the other end being an offset box wrench the same size as the open end wrench and which allows work in very close quarters, especially in channels where a great many bolts and nuts on textile machines are located.

A new loom fixers' handy box wrench, made from drop forged, chrome vanadium steel, heavily plated. This wrench comes in two sizes—one especially designed for Draper looms with 12-point hexagon openings ⅝" x ¾", 9¾" long. The other is especially designed for Crompton & Knowles looms with 12 hexagon openings 11/16" x 25/32".

Acme Steel Announces New Steel Strapping Tool

A new automatic seal-feed tool for quickly applying ⅝" and ¾" steelstrap to heavy shipments including skid loads has been developed by Acme Steel Co., Chicago.

Designed for easy operation, one lever tensions while the other seals the joint and cuts the strap from the coil without waste. The tool is simple to handle. Although of different design, this new tool, known as the Acme No. 2 steelstrapper, is the companion to the No. 1, which is made to handle strapping in widths of ¼", ⅜" and ½".



The automatic seal feed feature which is exclusive with Acme saves the time of applying seals by hand. Seals for the new No. 2 are furnished in clips of fifty; and an equal number of steelstraps can be applied before reloading the seal magazine.

Another advantage of the new steelstrapper is the unlimited strap take-up for maximum tension. The tool can be used on the side of a package as in the illustration, on top, or mounted to a conveyor for fast-moving production lines.

New Micrometer Setting Card Grinding Guage

Dronsfield Bros., Ltd., Oldham, England, have announced an entirely new invention for scientifically setting traverse grinding rolls on cards. It is called the No. 196 micrometer setting gauge for card grinders, and its use is said to eliminate setting "by ear" and the consequent likelihood of setting the grinder too deep, or not deep enough, or obliquely.

The device consists of a main bracket which is bored out to fit on the 3-inch diameter tube of standard traverse wheel grinders. In use, it is mounted, as shown in Fig. 1, on the grinder tube adjacent to the emery disc, with a pointer on the scale *D* swung round by the screw *A* to the mark 0 (zero) on the graduation face, and locked by the screw *B*. The plate *C* is then pressed down to contact with the emery surface; this contact being established, the screw *A* is locked and the plate removed. To determine the amount of grinding cut, *B* is released and the pointer swung to the desired graduation mark by the screw *A;* then *B* is locked.

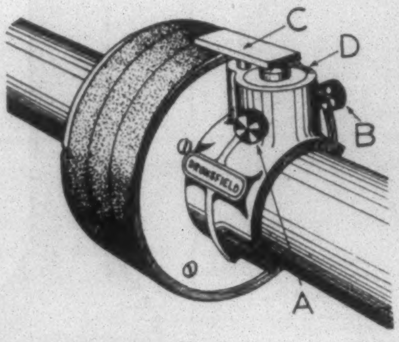


Fig. 1

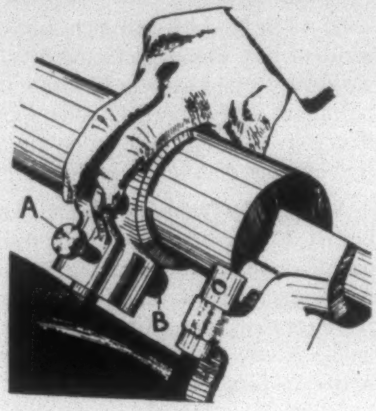


Fig. 2

The graduations are in 1/1000ths of an inch, and are marked from 0 to 7; thus, for instance, if the pointer indicates, say, 4, the cut given by the grinding disc will be 4/1000-inch.

The plunger stud is then used as a feeler (Fig. 2), set to touch the points of the wire surface all across the card. When the grinder is placed in position after this setting, the cut of the emery disc will be equivalent to the amount indicated on the graduation.

The manufacturers point out that the gauge may be used also for testing the surfaces of card teeth for parallelism and cylindricity; and for testing the bare surfaces of cylinders and doffers before grinding with the bare cylinder grinder and, after grinding, to facilitate the alignment of the grinder brackets to the newly-ground surface. For this latter purpose, a longer interchangeable plunger-feeler stud is supplied.

New High Speed Traverse Plaiter

Birch Bros., Inc., of Somerville, Mass., announce a new high speed all ball bearing traverse plaiter for plaiting goods coming from slack washers or other machines into trucks. The machine may also be used for plaiting goods into narrow bins.

W. G. Betsch Chosen Chairman of Credit Protection Division

William G. Betsch, of W. Iselin & Co., Inc., has been chosen chairman of the Textile Fraud Prevention Prosecuting Committee of the National Association of Credit Men, according to John L. Redmond, president of the New York Credit Men's Association and vice-president of Crompton-Richmond Co.

Mr. Betsch succeeds Konrad F. Braun, of Commercial Factors Corporation, who served as chairman of the committee for several years. Mr. Braun will continue as a member of the committee.

James A. Stack, Stern & Stern Textile Importers, Inc., was appointed vice-chairman. Harry Delaney, of Meinhard-Greeff & Co., Inc., will also be vice-chairman.

The Textile Fraud Prevention Prosecution Committee directs the fight against commercial fraud, which is conducted through the operations of the Fraud Prevention Department of the National Association of Credit Men.

The other members of the committee besides Mr. Redmond, who will also act as a member, are:

George Beisheim, of Sidney Blumenthal & Co., Inc.; Konrad F. Braun, of Commercial Factors Corporation; A. H. Bullwinkel, of L. Bachmann & Co., Inc.; Wm. H. Corin, of L. F. Dommerich & Co.; Wm. Fraser, of J. P. Stevens & Co., Inc.; Emmanuel P. Lewis, of James Talcott, Inc.; George O'Neill, of H. A. Caesar & Co.; Wm. Sage, Jr., of N. Erlanger-Blumgart & Co.; M. P. Schapp, of Pepperell Manufacturing Co.; Wm. H. Stonaker, of Mill Factors Corporation; Frederick W. Steinmeyer, of Pacific Mills, and R. G. Woodbury, of the Textile Banking Co.

United Elastic Appoints Ernest Boehm

United Elastic Corporation of Easthampton, Mass., manufacturers of elastic webbings of all types, announce that Ernest Boehm, who has previously represented them very successfully in the Middle-West, will now represent them in Virginia and South Carolina. Mr. Boehm, known to the trade as "Ernie," is well-equipped to discuss all phases of elastic webbing as he was technically trained at the mill before entering sales work.

Mr. Boehm's territory in the Midlle-West is being taken over by Russell A. Bishop. Mr. Bishop, after many years experience producing webbing in the mill, now enters the sales force where his knowledge of the practical side of the production of webbing will make him of great value to the customers of the United Elastic Corporation. He will be located at 907-A Merchandise Mart, Chicago.

Kingsport, Tenn.—The Smoky Mountain Hosiery Mills have been sold by the American Lace Company to the Quaker Hosiery Company of Philadelphia, Pa. The Smoky Mountain Hosiery Mills have 38 full-fashioned machines which are operated on ladies' full-fashioned hosiery.

Winston-Salem, N. C.—The Arista Mill is now operating on a full-time schedule, after four and one-half months of partial and total inactivity. They employ approximately 350 workers.

TAKE YOUR PICK!

☐ *50% to 75% Saving In Kettle Costs*

☐ *Fewer Loom-Stops Increased Production*

☐ *Better Weaving*

Unless we're greatly mistaken, you'll check all three . . . and we'll give them to you . . . and more! In fact, you will also note a better fiber-lay and less decrease in elongation. These advantages are being proven every day with HOUGHTO-SIZE in mills everywhere. Cotton manufacturers are enthusiastically saying that this product is the answer to their sizing problems. It can be the answer to YOUR sizing problems . . . and we are prepared to prove it IN YOUR MILL, showing you savings and increased production. Call for The Houghton Man!

Just printed! Handbook on Cotton Warp Sizing; 176 pages of valuable information and useful data on sizing. Ask for it on your letter-head!

E. F. HOUGHTON & CO.
PHILADELPHIA
Chicago Charlotte

HOUGHTO-SIZE
FOR COTTON WARPS

Personal News

J. C. Tipton has resigned as superintendent of Chadwick-Hoskins Mill No. 4, Charlotte, N. C.

Fred M. Shehane, formerly second hand of weaving with Burlington Mills, Blue Ridge Division, Alta Vista, Va., is now connected with S. Slater & Sons, Slater, S. C., in a similar position.

Doyle Balliew, formerly a loom fixer at the Blue Ridge Division of Burlington Mills, Alta Vista, Va., is now second hand of weaving with S. Slater & Sons, Slater, S. C.

Grady Inman, formerly overseer of weaving at the Blue Ridge Division of Burlington Mills, Alta Vista, Va., is now overseer of weaving, third shift, at S. Slater & Sons, Slater, S. C.

Jack Rhymer has resigned as traveling representative for the Dary Ring Traveler Company to become superintendent of Chadwick-Hoskins Mill No. 4, Charlotte, N.C.

P. K. Holt has resigned as secretary of the McEwen Knitting Company, Burlington, N. C., to become manager of the new Dothan Silk Hosiery Company, at Dothan, Ala.

Ed Rackley, of Burlington, N. C., has accepted the position of superintendent of the Dothan Silk Hosiery Company, Dothan, Ala.

Arthur Whitaker is superintendent of the Radford Knitting Mills, East Radford, Va.

William Fahrback and Joseph Carrigan are superintendents of the Crewe Hosiery Mills, Inc., Crewe, Va.

W. K. Holt, Jr., has resigned as office manager of the Central Falls (N. C.) Manufacturing Company to become secretary of the McEwen Knitting Company, Burlinton, N. C.

R. H. Hillaird is superintendent of the new full-fashioned unit of the Melrose Hosiery Mills, High Point, N. C.

Frank D. Newbury has been appointed manager of the New Products Division of the Westinghouse glectric & Manufacturing Company. George H. Bucher, president of the company, announced his appointment as successor to Herbert Mygatt Wilcox who died July 28.

W. H. Taylor, formerly of South Carolina, has accepted, and is now serving, the newly created position of general manager of Newnan (Ga.) Cotton Mills, in charge of production and sales.

D. Elwood McCuen, Jr., son of D. E. McCuen, cotton merchant of Greenville, S. C., is a candidate for the House of Representatives of Greenville County. Young McCuen, 24, is a graduate of the Citadel and is making his first bow in politics.

Kert Dippman is to be superintendent of the Francis-Louise Full-Fashioned Mills, Inc., Valdese, N. C.

O. C. Moore of Polly Prentiss, Inc., Sumpter, S. C., has been elected president of the Tufted Bedspread Manufacturers' Association, which was formed recently at a meeting in Dalton, Ga.

Robert F. Bowe, for about 20 years with Southeastern Cottons, Inc., and its predecessor, has just become associated with Hesslein & Co., where he will specialize in gray goods. Mr. Bowe, who is among the veterans among gray goods merchandisers, had had actual mill experience before coming to the New York market. He had been a vice-president of Southeastern Cottons, Inc.

CLINTON STARCHES

FOR ALL
TEXTILE PURPOSES

Manufactured by
Clinton Company
CLINTON, IOWA

QUALITY SERVICE

HOUGHTON STANDARD TOPS
Prompt Shipment All Grades on Short Notice
Suitable for Rayon and Cotton Blends
HOUGHTON WOOL COMPANY
235 Summer St. Boston
Write or Phone Our Southern Representative
JAMES E. TAYLOR, Phone 3-3692 Charlotte, N. C.

J. H. Garrett, formerly with Boaz Mill & Gin Co., Boaz, Ala., is now connected with Avondale Mills, with his headquarters in Sylacauga.

W. H. Grant, who for some time has been office manager of the Greensboro, N. C. plant of the Burlington Mills, Inc., has become manager of the Central Falls Manufacturing Company at Great Falls, S. C., about thirty miles south of this city, succeeding Holt, who has resigned to go to Burlington, where he will accept a position which represents a decided promotion.

H. H. Iler Heads Greenville, S. C., Section Of A. S. M. E.

H. H. Iler, plant engineer for Union Bleachery, Greenville, S. C., was recently elected chairman of the Greenville Section of the American Society of Mechanical Engineers.

Other officers and members of the executive committee include: R. S. Pruitt, vice-chairman, Greenville, S. C.; James H. Sams, secretary-treasurer, Clemson, S. C.; members of executive committee, B. E. Fernow, J. A. McPherson, J. R. Gill, C. E. Hoey, Jr. and J. E. Waldrop.

Carl Moore Carolina Representative for Howard Bros.

Carl M. Moore has been appointed Carolinas representative for Howard Bros. Manufacturing Co., with headquarters in Charlotte, it was announced this week by an official of the company.

Mr. Moore, as well as J. Floyd Childs, sales representative for Georgia, Alabama and Tennessee, will work under the direction of Guy L. Melchor, Southern agent, whose headquarters are in Atlanta. Thus, it was explained, the efforts of the company in the South will be consolidated in that office, assuring maximum efficiency and speed in serving the company's large clientele in the Southern States.

Mr. Moore is widely known as a textile manufacturer, having served for four years as agent for West Boyleston Manufacturing Company, three years as superintendent of the Piedmont Manufacturing Company, and three years with the Hillside Plant of the Callaway group of mills. He has already established his headquarters in Charlotte.

Huffman F. F. Mills Appoints McGuirk Sales Head

R. C. McGuirk, vice-president of Archer Hosiery Mills the past three years, has been appointed sales and advertising manager for the Huffman Full Fashioned Mills, Inc., of Morganton, N. C., it was made known recently.

R. O. Huffman, president of the company, announced at the same time that a new branded line of women's and men's full-fashioned hosiery will be introduced to the retail trade on January 1st.

Mr. McGuirk, who had been with Davenport Hosiery Mills for 13 years, during eight of which he served as sales manager, before joining Archer, will come to the Huffman firm on September 15. Immediately thereafter he will begin to organize a salesforce to cover the entire country.

W. M. Self Appointed Assistant Treasurer Of Armstrong Cork Co.

W. M. Self has been appointed assistant treasurer of the Armstrong Cork Company to succeed Keith Pawlison, who was recently named treasurer and a director of the company.

Mr. Self, a native of Callahan County, Texas, and a graduate of Harvard University, was formerly assistant treasurer of the Royal Baking Powder Co., prior to its merger with Standard Brands, Inc. He has also been connected with the Irving Trust Co., of New York City and the Asia Banking Corporation, serving the latter firm as manager of its Shanghai branch.

Twenty Years Ago This Month

The following are excerpts from the Textile Bulletin of August 29, 1918:

SOUTHERN MILLS FEAR EFFECTS OF NEW DRAFT

Washington.—Apprehension exists among the cotton manufacturers of the South regarding the coming extension of the draft ages to include men between the ages of 18 and 45, according to representatives of several of the large mills who have recently passed through Washington.

The labor situation throughout the South already is acute, it is stated, and at present the mills are only getting an average production of from 75 to 80 per cent capacity. Many of the laborers in the mills, particularly the mechanics and artisans, have been attracted to the shipyards and have left the mills in the lurch as a result.

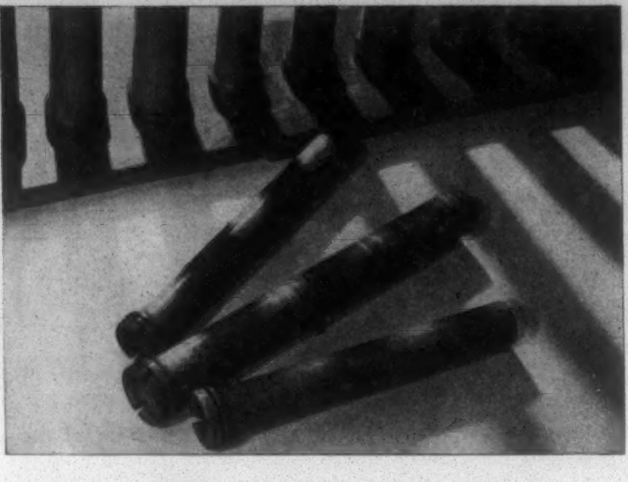
Atlanta, Ga.—Practically all the mills in Georgia operated by hydro-electric power are closed down on account of the rivers on which the power plants are located being so low that there was not a sufficient amount of water to operate these mills.

MARKET PRICES

Print Cloths	
27 -inch 64x60	11¼c
38½-inch 64x60	15½c
39 -inch 80x80	23 c
Sheetings	
36 -inch 56x60	17½c
36 -inch 40x48	20 c
Twills	
39-inch 64x60	21 c
30 -inch 68x76	24¾c
Drills	
40 -inch 68x40	18 c
37 -inch 68x40	25 c

Cotton Yarn Market

Philadelphia.—Some of the yarn dealers have figured out the lists and are prepared to sell yarns when they can get them from spinners, but spinners are not anxious to sell just now. They are sold up as far ahead as they care to sell. * * * * * * When strict good middling is used, 8s-3 is 61 cents; 12s-2 at 63 cents; 16s-2 at 66 cents; 30s-2 at 79½ cents.



"Any Three"
1. Take any three
2. From any lot
3. Then you'll agree—

"Go TERMACO"

For CARD ROOM BOBBINS,
Creel, Twister and Warp Spools, Skewers,
Clearer Boards, Scavenger Rolls, etc.

The Terrell Machine Co., Inc.
Charlotte, North Carolina

Equipment For Sale

?

Chances are you'll find a buyer
through a
Textile Bulletin
WANT AD

Atlanta Power Transmission Club Elects John C. Turner

John C. Turner, of Atlanta, Southern representative for Chas. Bond Company, was recently elected president of the Atlanta Power Transmission Club. Other officers elected to serve with Mr. Turner, are B. S. Barker, vice-president and James B. Allen, treasurer. Roy S. Smith is regional engineer for the Southeast.

Henry M. McKelvie Chosen Agent For Merrimack Mfg. Co.

B. S. Hawkins, president and treasurer of Merrimack Manufacturing Company, makes known the appointment of Henry M. McKelvie as agent of the company's properties at Huntsville, Ala., effective September 1st. Mr. McKelvie succeeds Joseph J. Bradley, who has resigned.

Mr. McKelvie was formerly vice-president, general manager and director of the Firestone Mills, Gastonia, N. C.

Overseer Killed by Train

Gastonia, N. C.—A Southern Railway freight train struck and killed T. R. Bradshaw, 36-year-old overseer of an East Gastonia textile plant, as he walked down the railroad tracks August 10th. He is survived by his wife and two children.

1938 Alabama Poly (Auburn) Textile Graduates Widely Scattered

Auburn, Ala.—1938 graduates from the Alabama Polytechnic Institute Textile School were placed in textile plants of five Southern States, according to information from A. R. Macormac, Associate Professor of Textile Chemistry. Auburn's textile school, the most recently established textile school in the South in a major college, has made excellent progress since its beginning in the latter part of the 1920's. E. W. Camp is head of the textile school.

A partial list of the placements for the 1938 class follows:

Luther W. Armstrong from Greenville, S. C., Renfrew Bleachery, Travelers' Rest, S. C.; W. O. Bozeman from Andalusia, Ala., Russell Manufacturing Company, Alexander City, Ala.; T. W. Cooper from Dixiana, Ala., Russell Manufacturing Company, Alexander City, Ala.; Charles H. Crump from Pell City Ala., Fairfax Mill of West Point Manufacturing Co., Fairfax Ala.; James T. Doughtie from Columbus, Ga., Crompton Shenandoah Company, Waynesboro, Va.; E. G. Jones from Birmingham, Ala., Gloria Rayon Mills, Johnson City, Tenn.; William L. Langley from Alexander City, Ala., Gloria Rayon Mills, Johnson City, Tenn.; Thomas D. Lewis, Jr. from Washington, Ga., Bibb Manufacturing Company, Columbus, Ga.; Hugh S. Owen from Geneva, Ala., Cowikee Mills, Inc., Eufaula, Ala.; Mason Studdard from Howard, Ala., Eagle Phenix Mills, Columbus, Ga.; A.

R. Sylvester from Comer, Ala., Cowikee Mills, Eufaula, Ala.; Lewis B. Thomas from Atmore, Ala., Lanett Bleachery and Dye Works, Lanett, Ala.; John B. Tucker from Talladega, Ala., Bemis Bros. Bag Co., Bemiston, Ala.; Herman S. Weisz from Montgomery, Ala., Rock Hill Prtg. & Fin. Co., Rock Hill, S. C.; W. Carl Whitman from Selma, Ala., Russell Manufacturing Company, Alexander City, Ala.; James A. Woodruff from Macon, Ga., Bibb Manufacturing Company, Columbus, Ga.

Yarn Association To Meet October 28th-29th

The Carolina Yarn Association will have their annual get-together at Pinehurst, N. C., October 28th and 29th, it was announced by Sam Diggle, president of the association.

The Golf Tournaments will be under direction of W. T. (Buck) Cheatham. Play will be over thirty-six holes, eighteen on each of two courses, with prizes going to seventy or more winners. If desired, entrants may play eighteen holes each day, or the entire thirty-six during one day.

Entertainment will be under the supervision of Ray Weaver, and many surprises are promised.

The Skeet Shoot will be in charge of Joe Mason, who has handled this event for several years. Winners will be awarded attractive prizes.

The annual banquet will be held Saturday night, October 29th, during which winners of the golf and skeet will be presented their prizes.

Officials are expecting a record breaking attendance which will be by invitation only.

As usual, the Carolina Inn will be headquarters for the meeting.

Ginnings Lower

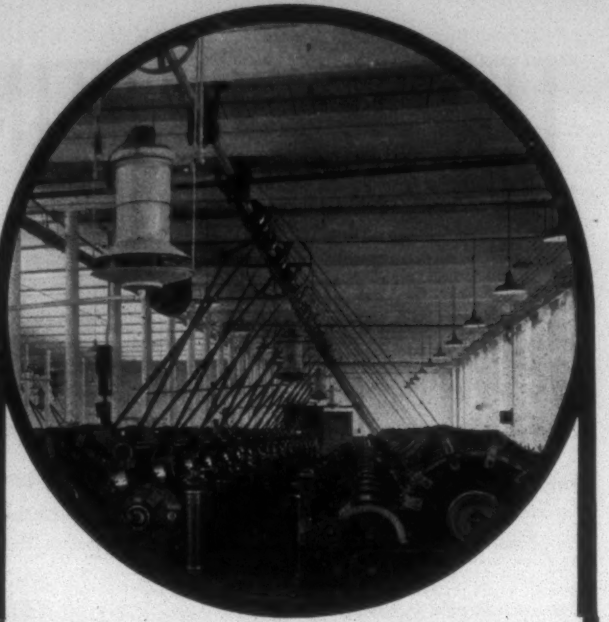
Washington, D. C.—The Census Bureau announced that cotton of this year's growth ginned prior to August 16th totaled 313,934 running bales, counting round as half bales and excluding linters, compared with 514,524 bales a year ago, and 208,509 bales two years ago.

Ginnings by States were: Alabama, 5,095 running bales; Arizona, 3,694; Florida, 1,209; Georgia, 14,888; Louisiana, 2,228; Mississippi, 260; Texas, 285,705, and all other States, 855.

Scott & Williams in New Offices

Scott & Williams, Inc., knitting machine manufacturers, has moved its executive and sales offices to 40 Worth Street. Special facilities for the demonstration of the latest improvements and innovations in knitting machinery are being arranged.

A complete line of machines and all modern attachments is set up, ready to run. Large space is devoted to a display of a complete line of plain and fancy hosiery, knitted underwear garments and fabrics produced on Scott & Williams machines.



Rhoads TANNATE
Leather Belting

FOR BETTER
DRIVES

GREATER PRODUCTION . . .

—through *maximum power transmission capacity* even under heavy load.

HIGHER QUALITY OF OUTPUT

—through *steady flow of power* under varying conditions of load.

LOWER REPLACEMENT COSTS

—through *longer service-life.*

LOWER MAINTENANCE COSTS

—through *greater resistance to wear.*

ASSURANCE OF SATISFACTION

—through *Rhoads Service Guarantee.*

Now is the time to turn to Tannate!

J. E. RHOADS & SONS
ESTABLISHED 1702
35 N. SIXTH STREET, PHILADELPHIA
New York Chicago Atlanta Cleveland Wilmington, Del.

TANNATE
LEATHER BELTING
LOWERS COSTS
Per Unit of Production

TEXTILE BULLETIN

Member of
Audit Bureau of Circulations and Associated Business Papers, Inc.
Published Semi-Monthly By

CLARK PUBLISHING COMPANY
Offices: 218 W. Morehead St., Charlotte, N. C.
Eastern Office: 503 New Industrial Trust Bldg., Providence, R. I.

David Clark	President and Managing Editor
Junius M. Smith	Vice-President and Business Manager
Ellis Royal	Associate Editor

SUBSCRIPTION

One year payable in advance	$1.50
Other Countries in Postal Union	3.00
Single Copies	.10

Contributions on subjects pertaining to cotton, its manufacture and distribution, are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

We Change To Semi-Monthly

With this issue TEXTILE BULLETIN becomes a semi-monthly and will hereafter appear upon the 1st and 15th of each month, instead of weekly.

For several years many of our advertisers have urged us to follow the recent example of *Manufacturers Record* of Baltimore and other publications and become a monthly but, from our long and intimate knowledge of the textile industry of the South, we hold the opinion that no monthly can fully satisfy either the textile mill officials or the operating executives.

We have taken note of the fact that whereas, during the great expansion period of the textile industry of the South, construction news came fast enough to fill our columns each week, such items now seldom appear in great volume.

We have also taken account of the fact that whereas, some years ago, changes among superintendents and overseers were so frequent as to completely filled our "Personal News" columns each week, such news items are now comparatively few and we seldom obtain many for any week, although it does happen that this week we have a large number.

Under these circumstances we believe that a semi-monthly can concentrate the construction news and personal news of two weeks into one issue and not only give them in larger volume but publish them in advance of other textile journals.

As a semi-monthly we will have more time to prepare our reading matter and present it in a more attractive and interesting way.

One new feature will be a Master Mechanics' section in the first issue of each month. Other features, which will be carried every issue or every other issue, include the "Problem Page," of interest to superintendents and overseers: "Visiting the Mills," by Mrs. Ethel Thomas Dabbs; and the "New Equipment and Processes" section.

It is our plan to make TEXTILE BULLETIN more *helpful* to its readers by publishing a greater number and variety of technical articles relating to manufacturing processes and problems, but at the same time we shall retain the breezy, newsy style which has always distinguished this journal from the others and which has helped to make it the best read publication in the field.

Each month we will publish approximately the same number of pages as formerly, but they will be in two issues instead of four.

Our change from a weekly to a semi-monthly is being made when we have the largest list of paid subscribers in our history and when our advertising revenue is the greatest since 1933.

Decision to change to a semi-monthly was not suddenly or thoughtlessly made. On the contrary, the decision was reached after several months of careful study and only after we were thoroughly convinced that it was a progressive and a constructive move.

Some Fast Writing

Within a few days after President Roosevelt declared the South to be National Economic Problem No. 1, he appointed an advisory committee of Southern citizens who were to make an investigation and file a report relative to economic conditions in the South.

That was only a few weeks ago but having recently read "Section 14" of the very lengthy report which was filed, we must congratulate the advisory committee upon the celerity with which they made the investigation and upon their ability to do exceptionally fast writing.

When President Roosevelt appointed the advisory committee we stated that as far as Chairman Frank Graham, of the University of North Carolina, and Miss Lucy Mason, of the C. I. O., were concerned, their report was already written and that no investigation would change their ideas in any respect.

It now appears to us that the entire report must have already been written and was handed to the advisory committee with orders to approve.

The report will in the future be Exhibit No. 1 for those who wish to make attacks upon the South and will be referred to as a report of an investigation made by Southerners.

We are not unmindful of the fact that Lowell Mellet, the chairman of the National Emergency Council, was, while editor of a Washington newspaper, a staunch defender of communism and of those communists who were guilty of unpatriotic acts.

Everyone will have to admit that, if the advisory committee of Southern citizens wrote the Report upon Economic Conditions in the South, they certainly were very fast writers.

The Purges

The purges now being attempted by President Roosevelt may or may not succeed in defeating certain Senators and certain Congressmen. The results of these attempted purges may be very satisfactory, but from an entirely different standpoint from that sought by Mr. Roosevelt.

Candidates who are defeated by purge attempts and those who win in spite of the attempts and a large per cent of electorate who favored such candidates, will not soon forget President Roosevelt's action and be definitely and permanently alienated from him.

Senator Barclay was renominated in Kentucky, and would probably have been renominated if President Roosevelt had not entered Kentucky, but many of the followers of Governor Happy Chandler will never again vote for Franklin D. Roosevelt or for any man who presents himself as a Roosevelt follower.

The same situation exists in Iowa, Georgia, South Carolina, Maryland, and in certain Congressional Districts in New York and Texas.

President Roosevelt has, in seeking to dictate to the States, whom they should send to Congress, created large groups of enemies and must in the future reckon with them.

Even though the President may succeed in his purge efforts and may get the $10,000 per year jobs for Corcoran and Cohen which is the real purpose of his reorganization bill, it may be that in the long run the purge effort, with its display of dictatorship, may be a good thing for this country.

Soccer Football

It is at this time of the year when baseball is nearing the end of its season and when it is too early for basketball that there comes the realization that there is the need of some form of athletics for cotton mill boys and young men and also something in which the mill employees can take an interest.

American football with its bodily contacts can not be adopted to cotton mill athletics but, as we stated last year, we do believe that English or soccer football can be developed and would become a regular feature of cotton mill life.

Soccer football is played by the mill operatives of England and within the past two years crowds in excess of 100,000 have witnessed championship contests in which one of the teams was from a cotton mill.

Soccer is less expensive than either baseball or basketball, because very little equipment is required and personal injuries are very few.

Can Count On Us

We were very much interested in the following dispatch.

> Worchester, Mass., Aug. 5—William Green, president of the American Federation of Labor, said today that he would lead the federation's membership in a campaign to drive the National Labor Relations Board "from power."
>
> "The administration of the Wagner Act is terrifically awful," he went on. "The NRLB has sunk to a new low level and is now a pro-C. I. O. agency."

The National Labor Relations Board has not sunk to a new low level because it has always been low down.

It is the most contemptible organization which has ever existed under our Government, and we will certainly join hands with Wm. Green in his effort to have it supplanted by an honest and fair Labor Board.

God _____ You, Walter!

"God ——— you, Walter!" is the Montgomery Advertiser's headline over a discussion of what President Roosevelt said to Senator George. That seems to be the way a good many of the Georgians understood it, too.—*Greensboro Daily News*

Spinning Mill Operations 100.2% for July

Washington.—The Census Bureau reported the cotton spinning industry operated during July at 100.2 per cent of capacity, on a single shift basis, compared with 91.9 per cent during June this year and 121.9 per cent during July last year.

Spinning spindles in place July 31st totaled 26,376,210, of which 21,916,166 were active at some time during the month, compared with 26,472,512 and 21,143,988 for June this year, and 26,987,716 and 24,391,782 during July last year.

Active spindle hours for July totaled 5,919,306,582, or an average of 224 hours per spindle in place, compared with 5,665,803,709 and 214 for June this year, and 7,665,035,632 and 284 for July last year.

Spinning spindles in place July 31st in cotton-growing States totaled 18,798,244, of which 16,660,094 were active, compared with 18,793,572 and 16,201,380 for June this year, and 18,896,138 and 17,751,056 for July last year, and in New England States, 6,777,446, of which 4,684,796 were active, compared with 6,877,868 and 4,341,078 for June this year and 7,172,582 and 5,907,954 for July last year.

Active spindle hours for June in cotton-growing States totaled 4,700,371,514, or an average of 250 hours per spindle in place, compared with 4,538,742,010 and 242 for June this year, and 5,929,989,364 and 314 for July last year, and in New England States, 1,109,858,626 hours, or an average of 164, compared with 1,003,872,206 and 146 for June this year and 1,573,585,216 and 219 for July last year.

Active spindle hours for July and the average per spindle in place, by States, follow:

Alabama, 395,184,836 and 210; Connecticut, 93,841,832 and 157; Georgia, 763,944,796 and 236; Maine, 180,429,297 and 256; Massachusetts, 514,983,355 and 137.

Mississippi, 52,968,944 and 253; New Hampshire, 89,939,544 and 143; New York, 52,827,320 and 148; North Carolina, 1,376,467,374 and 228; Rhode Island, 205,706,234 and 210.

South Carolina, 1,663,257,991 and 290; Tennessee, 174,876,116 and 291; Texas, 71,016,184 and 278; Virginia, 168,963,590 and 266; all other States, 115,299,069 and 157.

Index To Advertisers

Where a — appears opposite a name it indicates that the advertisement does not appear in this issue.

Page

—A—
Acme Steel Co. —
Akron Belting Co. —
Allis-Chalmers Mfg. Co. —
Alrose Chemical Co. —
American Blower Corp. 7
American Casablancas Corp. —
American Coolair Corp. —
American Cyanamid & Chemical Corp. —
American Moistening Co. —
American Paper Tube Co. —
Armstrong Cork Products Co. —
Arnold, Hoffman & Co., Inc. —
Ashworth Bros. —

—B—
Bahnson Co. 45
Baily, Joshua L. & Co. 33
Bancroft Belting Co. —
Barber-Colman Co. —
Bismark Hotel —
Bond Co., Chas. —
Borne, Scrymser Co. —
Brookmire, Inc. —
Brown, David Co. —
Butterworth & Sons Co., H. W. —

—C—
Campbell, John & Co. —
Carolina Refractories Co. 43
Carter, Inc., A. B. —
Charlotte Chemical Laboratories, Inc. —
Charlotte Leather Belting Co. —
Chelsea Hotel 42
Ciba Co., Inc. —
Clark Publishing Co. —
Clinton Co. 22
Commercial Credit Co. —
Corn Products Refining Co. —
Crompton & Knowles Loom Works —
Curran & Barry 32
Cutler Co., Roger W. —

—D—
Dary Ring Traveler Co. 40
Daughtry Sheet Metal Co. 45
Deering, Milliken & Co., Inc. 32
Denison Mfg. Co. —
DeWitt Hotels —
Dickson & Co., R. S. —
Dillard Paper Co. 43
Dixon Lubricating Saddle Co. —
Drake Corp. —
Draper Corporation 15
Dronsfield Bros. —
Dunning & Boschert Press Co. 33
DuPont de Nemours, E. I. & Co.
  Fine Chemicals Dept. —
  R. & H. Dept. —
  Dyestuff Division —
Duro Metal Products Co. 39

—E—
Eaton, Paul B. 45
Emmons Loom Harness Co. —
Engineering Sales Co. 39
Enka, American —

—F—
Foster Machine Co. —
Benjamin Franklin Hotel —
Franklin Machine Co. —
Frederick Iron & Steel Co. —

—G—
Garland Mfg. Co. 47
General Coal Co. —
General Dyestuff Corp. —
General Electric Co. —
General Electric Vapor Lamp Co. 3
Gill Leather Co. 8
Goodyear Tire & Rubber Co. —
Grasselli Chemical Co., The —
Greenville Belting Co. 45
Gulf Refining Co. 5

—H—
H & B American Machine Co. 13
Hart Products Corp. —
Hauser Stander Tank Co., The 39
Hercules Powder Co. —
Hermas Machine Co. —
Holbrook Rawhide Co. —
Houghton, E. F. & Co. 21
Houghton Wool Co. 22
Howard Bros. Mfg. Co. —
Hyatt Bearings Div. of G. M. C. —
Hubinger Co., The 43

Page

—J—
Jackson Lumber Co. —
Jacobs, E. H. Mfg. Co., Inc. —
Johnson, Chas. B. —

—K—
Keever Starch Co. 29
Kennedy Co., W. A., The —

—L—
Laurel Soap Mfg. Co., Inc. —

—M—
McLeod, Inc., Wm. —
Maguire, John P. & Co. —
Mayview Manor 42
Merrow Machine Co., The 42
Moccasin Bushing Co. —

—N—
National Aniline & Chemical Co. —
National Oil Products Co. —
National Ring Traveler Co. 39
Neisler Mills Co., Inc. 33
New England Bobbin & Shuttle Co. 37
N. Y. & N. J. Lubricant Co. —
Noone, Wm. R. & Co. —
Norlander Machine Co. 47
Norma-Hoffmann Bearings Corp. —

—O—
Old Dominion Box Co., Inc. —
Onyx Oil & Chemical Co. —

—P—
Parks-Cramer Co. 40
Perkins, B. F. & Son, Inc. —
Provident Life & Accident Ins. Co. 2
Pure Oil Co., The —

—R—
Rhoads, J. E. & Sons 25
R. I. Tool Co. —
Rice Dobby Chain Co. 31
Roy, B. S. & Son —

—S—
Saco-Lowell Shops —
Safety Belt-Lacer Co. —
Schachner Belting Co. —
Seydel Chemical Co. 43
Seydel-Woolley & Co. 39
Sherwin-Williams Co. —
Signode Steel Strapping Co. —
Sipp-Eastwood Corp. —
Sirrine & Co., J. E. Back Cover
Snap-On Tools Corp. —
Socony-Vacuum Oil Co. —
Solvay Sales Corp. —
Sonoco Products Front Cover
Southern Electric Service Co. 47
Southern Ry. —
Southern Spindle & Flyer Co. —
Staley Sales Corp. —
Steel Heddle Mfg. Co. —
Stein, Hall & Co. —
Sterling Ring Traveler Co. 41
Stevens, J. P. & Co., Inc. 32
Stewart Iron Works —

—T—
Terrell Machine Co. 24, 29, 40
Texas Co., The —
Textile Apron Co. —
Textile Banking Co. —
Textile-Finishing Machinery Co. —
Textile Shop, The —
Textile Specialty Co. —

—U—
U S Bobbin & Shuttle Co. 19
U. S. Gutta Percha Paint Co. —
U. S. Ring Traveler Co. —
Universal Winding Co. 4

—V—
Vanderbilt Hotel 41
Veeder-Root, Inc. —
Victor Ring Traveler Co. 31
Viscose Co. —
Vogel, Joseph A. Co. 51

—W—
WAK, Inc. —
Wallerstein Corp. —
Wellington, Sears Co. 32
Whitin Machine Works —
Whitinsville Spinning Ring Co. 51
Windle & Co., J. H. 45
Wolf, Jacques & Co. 6
Wytheville Woolen Mills —

W. D. Anderson Questions Importance of Rayon Tire Cord

Macon, Ga.—Taking issue with an article appearing in a recent issue of *Time* Magazine to the effect that synthetic rayon cord for automobile tire fabric might displace cotton and therefore lose for cotton farmers one of their largest markets, Wm. D. Anderson, president of Bibb Manufacturing Company, one of the largest producers of cord fabric in the world, pointed to recent developments in the processing of cotton, which, he stated, produced a Heat Resistant Cord far superior to any synthetic type. "Therefore," he added, "there is little likelihood that the consumption of cotton in the manufacture of automobile tires will ever be displaced by any other material.

"The new Heat Resistant Cord we are now producing," said Mr. Anderson, "outlives and outlasts any rubber yet compounded for automobile tires. Cotton fiber is as strong as steel. The tensile strength of cotton cord depends upon the resistance to slippage of the individual fibers. Through a revolutionary new principle in processing cotton, a way has been discovered to soften the natural gums and waxes inherent in every cotton fiber and to fuse the cotton fibers with these gums and waxes as they are rehardened so that they become set and bonded to a degree never before attained. The new process provides a cord which retards to a remarkable degree the generation of heat in an automobile tire, but even more important, this new process produces a cord which maintains uniform tensile strength under the high temperatures necessarily generated in any tire when subjected to hard use and heavy loads at sustained high speeds. Under operating conditions this new type Heat Resistant Cord is 25% stronger than ordinary cord and flex breaks have been eliminated.

"With this increased strength comes a more compact, lighter cord, which enables the tire manufacturer to secure the strength and safety of a 6-ply tire with a 4-ply construction. Synthetic cord (rayon) loses a great part of its tensile strength upon contact with moisture.

The Heat Resistant Cord prevents 'tire growth' and tread cracks, which cause premature tire failure," Mr. Anderson explained. Leading manufacturers are now using the new Heat Resistant Cord, especially in the manufacture of heavy duty truck tires.

"The future problem of the Tire Industry is not to find a substitute for cotton," Mr. Anderson concluded, "but to develop new rubber compounds, which will last as long as the Heat Resistant Cord fabric now at the command of the industry."

DENMAN LOOM PARTS PROVEN IN PRACTICE
Pickers, Lug Straps, Holdups, etc. Right in Principle and Price
THE TERRELL MACHINE CO., INC., CHARLOTTE, N. C.
EXCLUSIVE SALES AGENTS

Always Uniform — Always Dependable
VICTOR
MILL STARCH
"The Weavers' Friend"
BOILS THIN • HAS MORE PENETRATION • CARRIES WEIGHT INTO THE FABRIC
Distributed by
DANIEL H. WALLACE, Southern Agent, Greenville, S. C.
C. B. Iler, Greenville, S. C. F. M. Wallace, Birmingham, Ala.
L. J. Castile, Charlotte, N. C.
THE KEEVER STARCH CO. COLUMBUS, OHIO

Mill News

VALDESE, N. C.—The Pilot Full-Fashioned Hosiery Mills, Inc., are adding four 45 single unit machines.

CHARLOTTE, N. C.—The Hudson Silk Hosiery Company are adding about 5,000 silk throwing spindles.

GORDONSVILLE, VA.—The building for a full-fashioned hosiery mill at this place is now under construction.

ASHEBORO, N. C.—The McCrary Hosiery Mills are adding five 54-gauge Reading full-fashioned machines and two 45-gauge S. & S. single unit machines.

DOTHAN, ALA.—The Dothan Silk Hosiery Company will install fourteen 45-gauge full-fashioned machines and expect to later add 14 more. P. K. Holt is manager and Ed Rackley is superintendent.

HICKORY, N. C.—Work has been completed on an addition 60 by 36 feet at the Henderson Hosiery Mill, which is located on Highway 70. The addition provides space for the board room, a stock department and two offices.

CREWE, VA.—Machinery is now being installed in the Crewe Hosiery Mills, Inc. H. B. Johnson is president and the superintendents will be Wm. Fahrback and Joseph Carrigan. They will operate six 45 gauge full-fashioned hosiery machines.

COLUMBUS, GA.—The Swift Manufacturing Co., of this city has awarded the contract to the A. K. Adams Co., of Atlanta, Ga., for the construction of a one-story addition to three mill buildings and improvements to the present mill structure. The cost will be more than $65,000.

VICTORIA, VA.—The Hanover Broad Silk Works are now in operation on silk goods. It is an affiliate of the Petersburg Textile Corporation of Petersburg, Va., and Julius Descheemacher, Jr., son of the superintendent and vice-president of the Petersburg plant, is superintendent of the Victoria plant.

SALISBURY, N. C.—The Salisbury Mill Community Center, a new recreational activity in connection with the WPA, was formally opened August 15th with a large attendance.

C. S. Morris, superintendent of the mill, presided. The new building that contains play rooms, quarters for community meetings, kitchen, rest rooms and showers, was thrown open for inspection.

Addresses were made by W. B. Kesler, chairman of the city recreation commission; Mayor C. F. Raney, City Manager H. C. Holmes, and Mrs. J. H. Nettles, WPA recreational supervisor. Various activities in conjunction with the city-wide recreational program and the WPA are being carried on.

RADFORD, VA.—The Radford Knitting Mills at Radford, Va., which are affiliated with the Whitehall Knitting Mills of Philadelphia, Pa., are operating nine 45 gauge full-fashioned machines on silk hosiery. Arthur Whitaker is local manager.

ANDERSON, S. C.—Announcement was made recently of some extensive sidewalk improvements which will be made in the Anderson Mills village, some four miles of such paving to be laid within the next several months. The project is one in which the city and the WPA are co-operating.

Under the terms of the project, the WPA will supply something more than half the cost of the paving work. The city agreed to sponsor the project, although the city council has appropriated no funds for the work. The proposition was made to property owners that the work would be done if such property owners would stand the portion of the cost not provided by the WPA.

LUMBERTON, N. C.—The Ada McLean Mills, Inc., will "not again be operated as a cotton mill by the present owners," a statement released by the management announced. This decision was reached unanimously at a meeting of stockholders of the cotton yarn plant, situated near Lumberton.

Lease or sale of the plant will be considered, the statement said, "and if this is not done in the near future, the machinery and equipment probably will be sold and the buildings turned to other uses. All dwelling houses in the village will be offered for rent beginning September 1st."

The mill, which normally employes a minimum of 150 operatives, has not been in operation since last December 16. The property includes 67 houses, all occupied. The plant was operated until several years ago as the National Cotton Mill, which went into receivership and was sold to the present owners.

BURLINGTON, N. C.—The Baker-Cammack Hosiery Mills, of Burlington and Mebane, has completed the purchase of the machinery and equipment of the Penn Hosiery Mills, of this place, according to announcement by J. E. Baker, president.

This consists of some 50 machines for knitting men's hose. It has been moved into the plant of the company here, on Webb Avenue, and will mean an increase in payroll of approximately $30,000 per year. It will make the total number employed in the two mills about 300. The entire output of this concern consists of men's hosiery.

Plans are not yet complete for the announcement of the former owners, George Fowler, Emerson Sanders, and Ernest Pennington, as to what they expect to do. They will probably branch out into some other form of hosiery manufacture.

A Handbook On Cotton Warp Sizing

Under the above title a new book has very recently been published by E. F. Houghton & Company, Philadelphia and Charlotte, widely-known manufacturers of textile processing materials, industrial oils and leathers and metal-working products. This book appears to be a complete manual on all the phases of cotton warp sizing, and its 176 pages contain many interesting illustrations.

Included among the subjects authoritatively discussed are chapters on the purposes of warp sizing; starches, gums and softeners used in warp sizing; penetrants and preservatives; size check-up tests; common causes of sizing problems and their remedies; actual sizing formulae for well-known fabrics . . . and other useful data.

Houghton is offering this book free to cotton mill executvives and foremen; $1 to others. A copy may be obtained by writing the company direct, either at 240 W. Somerset St., Philadelphia, or at 1301 W. Morehead St., Charlotte, N. C.

First North Carolina Cotton Festival

Dunn, N. C.—The first cotton festival ever to be held in North Carolina is scheduled here September 29-30.

Many thousands are expected to attend the two-day affair and witness the many free acts and amusements that will go into the glorification of North Carolina's oldest staple.

"King Cotton" who has long reigned over the eastern North Carolina cotton country will be displaced by a new monarch in the person of a "Queen Cotton." Special judges will choose the girl that most typifies the old South and the traditions that have been built around the picking and production of cotton. She will be crowned at the coronation ball that will feature a famous swing band.

Civic clubs of Dunn are co-operating and working together to boost the festival as an annual affair. Norman Y. Chambliss, promoter of fairs and festivals, will be in charge of the programs.

OBITUARY

JAMES H. HULL

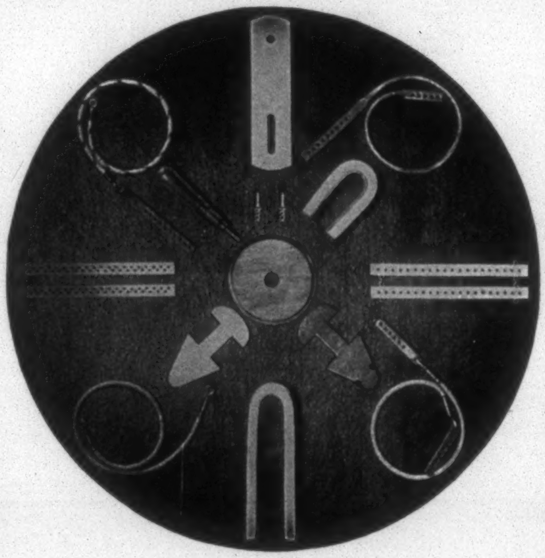
Shelby, N. C.—James Heyward Hull, 72, retired textile executive and business man, died at his home here August 22nd after two months' illness of heart trouble.

Mr. Hull was born and reared in Catawba County, and attended Rutherford College. Before coming to Shelby, he was a traveling salesman for the Richmond Tobacco Company and later became general manager of the Southern district for that company. At one time, he was president and general manager of the Gaston Manufacturing Company of Gastonia.

He came to Shelby about 1900, and in 1907 was married to Miss Lula Abernethy, daughter of the late J. A. Abernethy, who died recently at Lincolnton. Mrs. Hull died two years ago.

Mr. Hull, before retirement, was connected with Dickson & Hull, New York cotton brokers. He served as secretary and treasurer of the Shelby Cotton Mill and was connected in the mercantile business with McMurray & Hull, which later became Hull Bros.

Rice Dobby Chain Co.



Millbury

Massachusetts

More than Salesmen

Victor representatives are distinguished by their complete understanding of spinning problems, based on sound experience.

Try out some of your troubles on them. There's a competent Victor man near you. Write, wire, telephone.

VICTOR RING TRAVELER COMPANY

20 Mathewson St. Providence, R. I.

P. O. Box 1318

1733 Inverness Ave., N. E.
Atlanta, Ga.
Tel.—Vernon 2330

173 W. Franklin Ave.
Gastonia, N. C.
Tel.—247

SELLING AGENTS for
SOUTHERN COTTON GOODS

Deering Milliken & Company
Incorporated

79-83 Leonard St.
New York
330 West Adams Street
Chicago

CURRAN & BARRY

320 Broadway
New York, N. Y.

Wellington, Sears Company

93 Franklin St., Boston
65 Worth St., New York
Philadelphia
Chicago
Atlanta
New Orleans
San Francisco

Cotton Goods Markets

New York.—Demand for cotton gray goods expanded suddenly last week and prices advanced. In the most active period since early July, sales were estimated at about 25,000,000 yards, or 175 per cent of current weekly production of print cloths and related items.

Demand came chiefly from converters and printers of dress goods, although there was a good demand for mechanical cottons. Several million yards of combed goods were sold at the lower prices established early in the week. Sheetings improved and there was more inquiry for drills, twills, oshaburgs and heavy cotton goods, but actual business was light.

Mills right now are more interested in a small order for industrial purposes than a large one for apparel uses for they realize that the market cannot really improve unless the cloths which make up 40 per cent of the annual output of mills start to move into consumption. While the automobile trade has released some orders, the yardage involved in these was not large and more business is needed to restore prices to something approaching profitable levels.

Demand for extremely wide sheetings continued, but most of the business fell through because of the inability of the buyers to arrange satisfactory deliveries.

Finished goods markets picked up and prices strengthened, sellers refused to grant concessions available earlier. Sheets and pillow-cases were active. Wash goods sold more freely. Colored cottons were slow but deliveries against recent orders were heavy. Towels improved and upholstery goods and other types of home furnishings sold in slightly larger amounts.

Print cloths, 27-in., 64x60s	3⅝
Print cloths, 28-in., 64x60	3¾
Gray goods, 38½-in., 64x60s	4⅜
Gray goods, 39-in., 80x80s	6⅜
Tickings, 8-ounce	12
Denims, 28-in.	10½
Brown sheetings, standard	9¼
Brown sheetings, 4-yard, 56x60s	5⅜
Brown sheetings, 3-yard	6¼
Staple ginghams	10

J. P. STEVENS & CO., Inc.

Selling Agents

40-46 Leonard St., New York

Cotton Yarn Markets

Philadelphia.—Deliveries against old high-priced yarn contracts have had a spurt since early this month, when carded and combed yarn spinners' representatives finished redrafting the proposed code of yarn trading rules, including the reform of present practices surrounding contract specifications. In part, this spurt is attributed by some to need for yarn among users who lately have obtained orders for their products.

Most suppliers report no change recently in prices quoted by spinners. In some instances there have been sales of ordinary quality yarn at reductions, but this is said to be accounted for, at least partly, by special circumstances. Some mills need business worse than others and some buyers must locate yarn at a price, where quality can be eased off a little and still the yarn be good enough for the intended use. So far as can be learned, spinners appear likely to hold to their present price ranges until they have to make a choice of taking some business or getting none.

In the finer grades of yarn, sources continue basing quotations as closely as possible on the break-even point in their costs.

When yarn sales for August are totaled they will be substantially below the June and July monthly totals. In the early part of August there was some encouragement in the expectation that the buying spurt of the previous month might be renewed. After the middle of August it was seen that prospects were for continued piecemeal buying. More recently, many customers have stated they do not wish to be seen on yarns until after Labor Day. The next Government forecast on cotton is scheduled for September 8 and many now expect that buying of any consequence will be delayed until after the report is out.

Southern Single Skeins

8s	17½
10s	18
12s	18½
14s	19
20s	20
26s	23
30s	25
36s	28
40s	29½

Southern Single Warps

10s	18
12s	18½
14s	19
16s	19½
20s	20
26s	23
30s	25
40s	29½

Southern Two-Ply Chain Warps

8s	18½
10s	19
12s	19½
16s	20½
20s	21½
24s	23½
26s	24½
30s	25½
36s	29½
40s	30½

Southern Two-Ply Skeins

8s	18
10s	18½
12s	19
14s	19½
16s	20
20s	21½
26s	24½
30s	25½
40s	30½

Two-Ply Plush Grade

12s	19½
16s	21
20s	22
30s	28

Duck Yarns, 3, 4 and 5-Ply

8s	18
10s	18½
12s	19
14s	20½
16s	21
20s	21½

Carpet Yarns

Tinged, 5-lb., 8s, 3 and 4-ply	15½
Colored strips, 8s, 3 and 4-ply	16
White carpets, 8s, 3 and 4-ply	18

Part Waste Insulated Yarns

8s, 2-ply	14½
8s, 2 and 4-ply	15
10s, 2, 3 and 4-ply	15½
12s, 2-ply	16
14s, 2-ply	16½
16s, 2-ply	18½

Southern Frame Cones

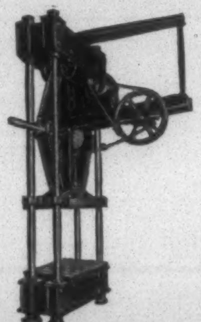
8s	17½
10s	18
14s	18½
16s	19
20s	20½
22s	21
24s	21½
26s	23
28s	24
30s	25

SELLING AGENTS for
SOUTHERN COTTON GOODS

Domestic Export
MERCHANDISING
Joshua L. Baily & Company
10-12 Thomas Street
New York

Neisler Mills Co.
Incorporated
Selling Agents
66-68 Worth Street
New York

BALING PRESS



Motor Drive, Silent Chain, Center of Screw.

Push Button Control—Reversing Switch with limit stops up and down.

Self contained. Set anywhere you can run a wire.

Our Catalogue sent on request will tell you more about them.

Dunning & Boschert Press Co., Inc.
328 West Water St. SYRACUSE, N. Y.

MASTER MECHANICS' SECTION

Electric Demand Metering

By Marshall Lake*

Reason For Determining Maximum Kilowatt Demand

This subject while one of vital importance to those men in industrial plants responsible for the generation, purchase and use of electric power is one frequently not fully understood by them. The measurement of the plant maximum electrical demand in kilowatts is of great advantage in properly evaluating the power service rendered and used. Some years ago it was deemed necessary to measure only the energy or kilowatt hours used by a plant to arrive at the value of the service. But as conditions in all lines of business became increasingly competitive it was soon realized that this method had its limitations.

To illustrate, let us assume that power is supplied to two textile mills whose machinery and product are the same in every detail except that the first mill has 10,000 spindles and operates two 40 hour shifts per week while the second mill has 20,000 spindles and operates one 40 hour shift per week. The weekly or monthly output in pounds of product manufactured and the weekly or monthly kilowatt hours used will be the same in each case for the two plants. If the value of the electric service used is computed on a kilowatt hour basis, whether at a flat rate or on a sliding scale of rates, it will be the same for the two plants. But when we further examine this situation we find that the maximum demand in kilowatts (or horsepower) required by the first mill is only one-half the kilowatt demand required by the larger plant even though the monthly production and kilowatt hours used are the same for both under the conditions assumed. This means that the necessary capacity in power supply equipment, whether power is generated by the two textile mills or is purchased by them from an electric utility organization, will be twice as large for the second mill. This in turn means an investment chargeable to power that may be nearly twice as large for the second mill. It again follows that the dollar fixed charges arising from interest, depreciation, obsolescence, certain forms of taxes, and insurance on the investment, irrespective of the number of hours per month or year the equipment is used, will be nearly twice as large for the second mill. It now becomes evident that the power cost for the first mill above should be lower than for the second mill, still adhereing to the initial assumptions as to equipment, product and operation.

To properly include this factor in the cost of power service it was necessary to introduce the element of maximum demand in kilowatts. This demand is treated in different ways in the different forms of power rates in use but in all cases it is intended to include in the rate, to the right degree, the element of fixed charges upon the investment in electric plant capacity required as apart from the energy or kilowatt hours used which for an industrial plant of given size depend upon the number of hours operated by the plant.

Now that the reason for determining the maximum kilowatt demand and including it in electric rate structures has been outlined, a discussion of the factors and equipment encountered in demand measurement naturally follows.

Basis of Demand Determination

All kilowatt demands arrived at by measurement are not determined upon the same basis. The length of the interval in miutes upon which the measured demand is based may vary, and the actual method of measurement may be one of several.

As to the length of interval, the more commonly used intervals today are 15 and 30 minutes. Shorter intervals have been used, such as 5 minutes, and in a few cases instantaneous demands. The longer the interval the greater the benefit to the user of power but the extent of the benefit from the use of a longer demand interval depends upon the characteristics of the power load itself. In the case of an absolutely constant power load the demand meter will indicate the same demand regardless of the length of the interval used. The usual textile mill load fairly closely approaches a constant load during mill operating hours and the use of an interval of longer than 30 minutes would produce only a negligible reduction in the measured demand. In the case of a widely fluctuating load, however, increasing the length of the interval may appreciably lower the demand actually measured by the meter. This latter case is illustrated by the load usually found in mining operations where large hoists operate intermittently. An instantaneous demand or a demand meter based upon a very short interval would record the peak load when the hoists were using maximum power; but a demand meter based on a longer interval would always include in the interval some time when the hoists were idle as well as time when they were fully loaded and the average load in kilowatts for the longer interval, which is the maximum demand, would be lower. To simplify further discussion the demand interval will be assumed to be 30 minutes.

Aside from intervals of various lengths there are two basic methods of directly determining demand. One is the "Lagged-demand" method which is illustrated by the use of the thermal demand meter. Here the demand shown by the active indicator of the meter at any instant is the average kilowatt demand for the immediately pre-

---

*Industrial Engineer, Duke Power Co.

MASTER MECHANICS' SECTION

ceding 30 minutes. The second is known as the "Integrated-demand" or block-interval method and here the active indicator of the meter starts at zero every 30 minutes and advances up the scale at a speed proportional to the use of power during the interval. Its travel at the end of the 30 minute interval indicates the average kilowatt load or demand during that interval. This latter method of demand measurement is more readily understood by the user and generally the meters of this type are capable of greater accuracy. For these reasons the block-interval method of demand measurement is more generally used and further discussion will be confined to the operation of meters used in this method.

It is interesting to note that with any given load except a constant load such meters will indicate a lower kilowatt demand than would be indicated under the first method of measurement outlined above. The block-interval meter will sometimes split peak loads of short duration measuring part of the peak load in one interval and part in the succeeding interval, therefore recording a lower demand than if the total duration of the peak load were in a single interval. Under the lagged-demand method of measurement first described above peak splitting cannot occur.

Block-Interval Demand Meter

The most commonly used demand meter of this type is simply a modification of the standard integrating wattmeter, or meter used to record kilowatt hours, and which with refinements and improvements has been used for many years. The usual register with only kilowatt hour dials is replaced with a register which records kilowatt demand as well as kilowatt hours, and no other change is made in the meter. A typical demand register of this type is shown in Figure 1.

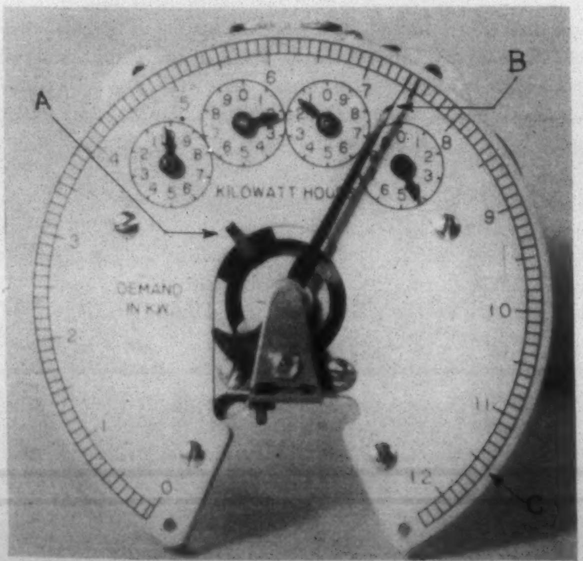


Fig. 1

Such a demand register is inherently a mechanical device and changes in no way the electrical characteristics of the meter to which it is applied. This should serve to remove much of the mystery which seems to attach to the demand meter.

In this meter kilowatt hours are recorded in the usual manner by the pointers on the four small dials near the top of the register. This reading is, of course, subject to multiplication by the meter constant which is arrived at from the size of the meter as indicated by the ratio of the current and potential transformers that comprise the meter installation.

Referring to Figure 1, the demand measuring portion of this register consists primarily of a pusher hand A, a limit-travel hand or demand indicator B with its demand scale C, and a small synchronous motor timing device with its accompanying gearing which cannot be seen in the front view shown.

The pusher hand A at the beginning of each 30 minute interval rests at zero which is the extreme counter-clockwise position of its travel. It is driven from the main meter shaft through suitable gearing and therefore advances up the scale at a rate proportional to the speed of the meter shaft or at the rate kilowatt hours are being used. If the load is increased the pusher hand moves up the scale at a more rapid rate; if all load is removed from the meter the meter shaft stops rotating and consequently the pusher hand advances no further up the scale. At the end of the 30 minute interval, as measured by the synchronous motor timing device, the pusher hand is reset to zero by a spring under tension or by gravity acting upon a weight, in either case the pusher hand being returned to zero by slipping the clutch on its driving shaft or by disengaging the driving gears.

The limit-travel hand or demand pointer B is moved only when it is pushed up the scale C by the pusher hand A, or when it is manually reset to zero at the time of the regular meter reading by means of a lever extending through the meter cover. With the pusher hand and demand pointer initially at zero, as the pusher hand advances up scale with the use of power it drives or pushes the demand pointer up the scale with it. At the end of the 30 minute interval the pusher hand is returned to zero as previously explained but the demand pointer remains in the position it occupied just before the pusher hand was returned to zero and thus indicates the average load or demand in kilowatts for the interval just ended. If the load or kilowatt hours used in the next interval is less than during the first interval the pusher hand will not advance as far up the scale before being returned to zero at the end of the interval and therefore it will not reach the demand pointer to change its posision. When an interval occurs in which the average load is greater than during any previous interval the pusher hand advances further up scale than at any previous time and consequently advances the demand pointer to a new position further up scale where it remains until read and man-

MASTER MECHANICS' SECTION

ually reset to zero as previously explained. The same meter constant applies to the demand reading as to the kilowatt hour reading.

Load Averaging Effect of Demand Meter

It is sometimes believed by power users that a momentary increase in load of say 30 kilowatts (40 horse power), caused by the starting of a large motor or resulting from other causes, will produce an increase in the metered kilowatt demand of the same amount or 30 kilowatts. This is not true. If the load before and after the temporary increase is the same and the kilowatt increase lasted for one minute, the metered kilowatt demand for that 30 minute interval would be increased by only one kilowatt.

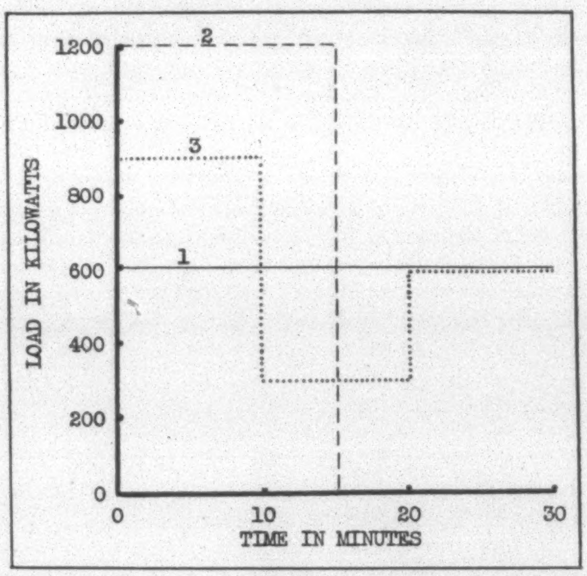


Fig. 2

This averaging effect of the demand meter is illustrated in Figure 2. In this figure Load Curve 1, shown as a solid line, illustrates a constant load of 600 kilowatts for 30 minutes or one-half hour and therefore the use of 300 kilowatt hours. With the demand pointer and push-up scale at a uniform rate until at the end of 30 minutes, interval the pusher hand advances the demand pointer up scale at a uiform rate uptil at the end of 30 minutes, when the pusher hand is returned to zero, the demand pointer would indicate a demand of 600 kilowatts with the meter constant applied to the demand pointer reading on the scale.

Load Curve 2, shown as a broken line in Figure 2, illustrates a load of 1200 kilowatts for 15 minutes and no load for the remaining 15 minutes. The 1200 kilowatt load for 15 minutes or one-fourth hour means a use of 300 kilowatt hours and since there is no load during the second 15 minutes and hence no kilowatt hours used, the total energy used is 300 kilowatt hours. Again with the pusher hand and demand pointer both at zero at the beginning, the pusher hand advances the demand pointer up the scale twice as fast during the first 15 minutes as it did in Curve 1, because the load is twice as large, and therefore it reaches the same position at the end of 15 minutes as it did for Curve 1 in 30 minutes. But there is no load for the second 15 minutes the meter stops and the pusher hand advances the demand pointer no further. The metered kilowatt demand is therefore also 600 kilowatts in this case.

Load Curve 3, shown as a dotted line in Figure 2, illustrates a load of 900 kilowatts for 10 minutes, 300 kilowatts for the next 10 minutes followed by a load of 600 kilowatts for the final 10 minutes. In the first 10 minutes or one-sixth hour the 900 kilowatt load uses 150 kilowatt hours. In the second one-sixth hour the 300 kilowatt load uses 50 kilowatt hours and in the final one-sixth hour the 600 kilowatt load uses 100 kilowatt hours, again making the toal 300 kilowatt hours. Each ten minutes the pusher hand advances the demand pointer up the scale at a rate proportional to the load during that period and it finally indicates a demand or average load of 600 kilowatts.

Thus we see that though the three loads considered are widely different the demand indicated by the meter will be the same in each case. This naturally follows because the main meter shaft total revolutions depend upon the kilowatt hours used, and since this shaft drives the pusher arm and demand pointer and since the kilowatt hours used in each 30 minute period are the same, the kilowatt demand metered in each case must be the same. So even though the load on Curve 2 was as much as 1200 kilowatts for long as 15 minutes, the indicated demand was only 600 kilowatts.

Other Types of Block-Interval Demand Meters

The demand meter described above is of fairly simple construction and has been used in sufficient quantities to enable the manufacturers to develop and build a meter with a high degree of accuracy and reliability. With all its good points there is one more to be desired and that is that while it records the maximum 30 minute demand since last reset manually, it gives no indication of the time at which the maximum demand occurred. This factor is included in the graphic demand meter which records each 30 minute demand on a traveling chart. The theory and usually the demand measuring mechanism are the same as for the meter in Figure 1 but additional parts and problems are introduced by the graphic feature. A typical section of chart from this type of meter is shown in Figure 3.

While this chart reveals the time at which the maximum demand occurred it introduces some disadvantages. Only a small portion of the strip chart can be viewed at any time without removing the chart from the meter. This is not true of circular charts but in such case a new chart must be used at least every week to prevent unduly crowding the chart. Strip chart reroll mechanisms give trouble and the inking device, which must withstand a temperature range of from zero to 130 degrees Farenheit commonly found in outdoor meter boxes, is far from trouble-free for even reasonably long periods, this in spite of much research work by the manufacturers to overcome these difficulties. The above is not intended to imply that graphic meters located inside the plant and receiving the benefit of frequent inspection by men familiar with them are not highly satisfactory in their operation. When it is desirable to know the time at which the maximum demand occurs in studies to improve the load characteristics, this information can be obtained best by temporarily installing a standard graphic wattmeter with strip chart.

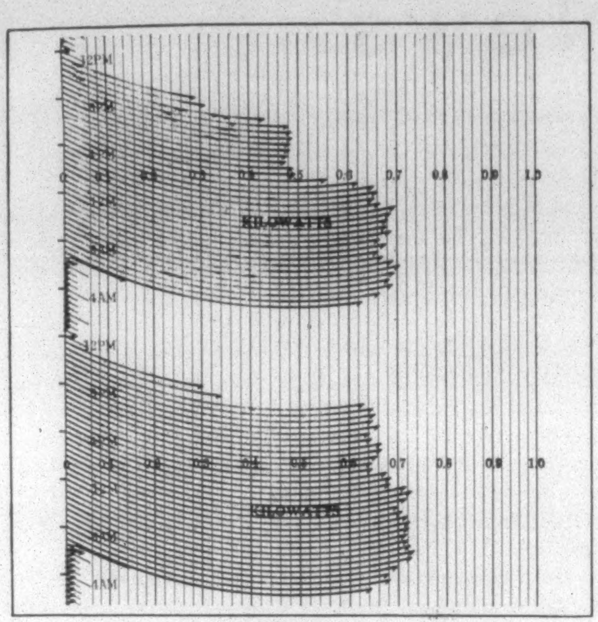


FIG. 3

When it is necessary to totalize the demands on several circuits to give proper consideration to load diversity on the several circuits, each circuit being metered separately because of load, voltage or location, somewhat different metering equipment is used for demand measurement. But it is the same in theory and is often quite similar in construction and for that reason a detailed explanation of such installation will not be attempted here.

Controlling Plant Demand

In textile mills there is usually no great opportunity to control the maximum demand as usually all mill equipment operates at the same time, and as previously stated the mill load approaches closely a constant load during mill operating hours. However, when the plant load is highest, usually on Monday mornings due to cold oil and stiff bearings and belts, the demand can be kept within certain limits by keeping shut down any equipment whose operation can be postponed until the regular mill machinery has become warmed up and the mill load has dropped to its running value, usually 85 to 90 per cent of the highest measured 30 minute demand. Some mills have staggered the starting up of mill machinery, others have put heat on in the mill sooner on cold mornings, and both procedures have effected reduction in the demand. These practices may introduce problems of a different nature and the mill alone must decide on the value of such a course. It is well when the electric fire pump is used to fill the mill tank, to defer pumping until the mill load is off or at least reduced by the amount of the pump load. It is claimed that some oils are just as satisfactory under running conditions and yet impose a lower cold starting load upon the driving motors. Again, any effort to control demand should be carefully analyzed and its cost weighed against the benefits obtained to determine the true net worth of the procedure.

Unfortunately, there has arisen in the minds of some people an animosity toward the measurement of plant maximum kilowatt demand, as though it possessed something of the nature of a penalty. To the enterprising it adds flexibility to power conditions and provides a constant check on equipment and operating conditions and thus is viewed by them as presenting an opportunity to reduce power costs.

PRECISION BOBBINS
Uniform in Quality
Uniform in Size
Uniform in Finish
NEW ENGLAND BOBBIN & SHUTTLE CO.
NASHUA NEW HAMPSHIRE
SOUTHERN REPRESENTATIVE – D.C.RAGAN HIGH POINT. N.C.

Mill News

Randleman, N. C.—The Laughlin Full-Fashioned Hosiery Mill is nearing completion here. The company plans to install eight to 12 full-fashioned machines in the beginning, employing 52 workers.

Cramerton, N. C.—Cramerton Mills, Inc., were awarded a government contract recently for delivery of cotton cloth valued at $245,800. The mills operate 58,000 spindles and 940 looms at Cramerton.

Greenville, S. C.—Victor-Monaghan Co. declared a regular quarterly dividend of $1.75 a share on the preferred stock, payable October 1 to stockholders of record September 20.

Burlington, N. C.—On the new addition which has been under construction at the Rufus D. Wilson Full-Fashioned Hosiery Mill, work has been pushed forward in an effort to have the new department in operation soon. The capacity of the plant will be doubled. Twenty full-fashioned machines are to be installed. The company already operates 20 full-fashioned machines.

Burlington, N. C.—The regular quarterly meeting of the directors of the May Hosiery Mills, Inc., was held in the office of the company recently. Routine business was transacted, and the regular quarterly dividend of $1 per share preferred stock and 50 cents common stock was declared.

Among the out-of-town directors present were J. B. Mitchener and H. M. Kaiser, of New York, and A. L. Brooks, of Greensboro, N. C.

Davidson, N. C.—Two mills of Davidson County have appealed to the North Carolina State Board of Assessment for revaluation: Erlanger Cotton Mills Co. with valuation of $1,505,353; Nokomis Cotton Mills Co. with $288,399 assessed valuation. It is understood that the Dacotah Cotton Mills Co. will also appeal.

Lincolnton, N. C.—At a receivership hearing in Newton, N. C., before Judge Wilson Warlick, the Excell Manufacturing Company of Lincolnton, N. C., was ordered dismantled and liquidated. The cotton mill has been in receivership for several years.

F. H. Chamberlain, Sr., has been named to sell the machinery located in the plant, while the real estate and other property will be handled by other liquidators.

Huntsville, Ala.—A night shift has been added at Lincoln Mills which resumed operations August 8 with approximately half of the former 1,400 operatives recalled to their machines. A checkup showed that about half of the 700 had been put back to work with the number being increased each day.

Manager Phillip Peeler said he expects that soon all of the 700 who have been recalled will be back on their jobs. He also expressed the hope that normal operations in the mill will be resumed before long.

Hopewell, Va.—Tubize Chatillon Corporation has installed a number of new high speed warp knitting machines at its knitting plant here, it is learned.

The company has been making both knit underwear and outerwear fabrics here for some time on circular knitting machines, mostly Wildman's. Until now it has installations of two sample high speed warp knitting machines which it has run on an experimental basis.

The new machinery apparently represents the start of regular commercial production of warp knit fabrics by Tubize.

Cherryville, N. C.—Cherryville Manufacturing Company, 6,000 spindle carded yarn mill at Cherryville, has been placed in permanent receivership by a stockholders' petition, it was learned recently with official filing in Superior Court Clerk Durward Morrow's office of an order signed by Judge W. F. Harding in Charlotte Saturday naming W. W. Glenn, Lincolnton textile executive and former Gastonian, as permanent receiver to liquidate the plant's business and close out its affairs.

Textile Executive Glenn, who had been the plant's general manager, was named temporary receiver by Judge Wilson Warlick at Newton August 12, after stockholders decided at a meeting August 9 the plant was a hopeless "white elephant" and should be liquidated.

Receiver Glenn's job will be to get up an inventory and appraisal list, get whatever bids he can on the mill's assets, then report to the court what sale procedure he thinks should be taken.

Creditors get first crack at the sale proceeds. What's left, if anything, goes to the stockholders.

Stockholders who decided it was time to fold up after their meeting August 9, and petitioned the court for liquidation, included E. P. Rhyne, George H. Rhyne, J. A. Abernathy, Jr., W. W. Glenn, W. B. Rhyne, R. S. Abernathy, Henry A. Rhyne.

They pointed out in their petition, which extended the customary invitation to all creditors to make themselves parties to the action, that Cherryville Manufacturing Company is standing idle now, has stood most of the past year, has run at a loss most of the time when it did run in the past several years, has made no money and paid no dividends for a number of years, has debts aggregating $52,875 which it can't pay, has no worknig capital, can't get any, and even if it could would not be able to operate at a profit under present economic conditions in the textile industry and with the present condition of its machinery and equipment.

From the Four Corners of the World

To Produce Seyco Sizing

(Pronounced "Si-Co")

Vegetable wax from Japan and Mexico, gum material from Holland and Java, oils and chemicals from other parts of the world all blended together with the finest products from home markets! This to insure the highest grade of Warp Sizing that can be made and to assure quality and uniformity. SEYCO will prevent shedding of yarn by providing a tough, elastic film.

Large stocks of Warp Sizing always on hand in our new and modern plant. SEYCO is packed in rust-proof steel drums, saving you 10 to 20 pounds from absorption otherwise.

Warp Sizing
Softeners
Shuttle Dressing
Penetrants
Alkalis

Ask for Demonstration!

Our well equipped chemical staff directed by Dr. Seydel, a renowned chemist (honored by American Chemical Society as Councillor, etc.), will help you with your Sizing and Finishing problems.

"A company is known by the customers it keeps."

SEYCO

Seydel-Woolley & Co.

Textile Chemicals

748 Rice St., N. W. ATLANTA, GA

WENTWORTH

Double Duty Travelers

NATIONAL RING TRAVELER CO. PROV. R. I. U. S. A.

Last Longer, Make Stronger Yarn, Run Clear, preserve the SPINNING RING. The greatest improvement entering the spinning room since the advent of the HIGH SPEED SPINDLE.

Reg. U. S. P. O.

manufactured only by the

NATIONAL
Ring Traveler Co.

Providence, R. I.

131 W. First Street, Charlotte, N. C.

BEST WHERE THE REAL TESTS ARE MADE
Best ON THE Records OF MAINTAINANCE COST
DURO
TEXTILE
Tools

MAINTENANCE costs are held at a minimum with Duro Textile Tools. A mechanic equipped with the proper tools, takes care of more machines, works faster and does better work. In the Duro line there's a tool for each operation; tools to fit those hard-to-get-at places; tools to combat any problem. Let the Duro line help you keep every machine in operation. Send for free Catalog.

DURO METAL PRODUCTS CO.
2663 N. Kildare Ave. Chicago, Ill.

MATERIALS HANDLING EQUIPMENT

Pays For Itself

Nutting
Floor Trucks
Wheels, Casters
—5 Types
Rubber Wheels

STANDARD CONVEYORS

CLEVELAND TRAMRAIL

Barrett Lift-Trucks
Portable Elevators

LYON
Shelving
Lockers
Boxes

Elwell-Parker Electric Trucks

ENGINEERING SALES COMPANY

S. R. & V. G. Brookshire

Builders Bldg. CHARLOTTE, N. C. Phone 3-4232

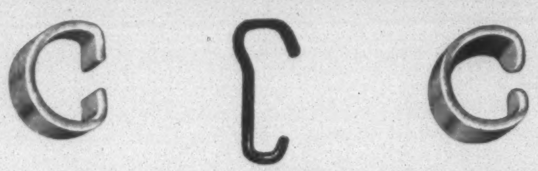
MULTIPLE COMPARTMENT TANKS
with
Monel or Stainless Steel Linings, False Bottoms, Fittings, Etc.

The Hauser-Stander Tank Co.

4810 Spring Grove Ave. Cincinnati, O.

BOBBIN CLEANING
AS MODERN
AS TOMORROW
THE NEW TERRELL TYPE "L"
AIR CLEANING MACHINE
for
SILK, RAYON, FINE COTTON
combines
Maximum Efficiency
with
no possibility of damage to finish
•
Your inquiries invited
The Terrell Machine Co., Inc.
CHARLOTTE, NORTH CAROLINA

PARKS
Airchanger
makes good
Humidifier Systems
Better
Parks-Cramer Company
FITCHBURG, MASS. CHARLOTTE, N. C.



DARY RING TRAVELERS
The Dary Ring Traveler is the result of 40 years' experience and an enormous amount of research and experiment in high speed traveler manufacture. Dary Ring Travelers are made from *speciallly drawn stock* by the finest of skilled craftsmen. They are *guaranteed in weight, temper and style.* Write for samples and prices today.
THE DARY RING TRAVELER CO.
TAUNTON, MASS.
B. G. DARY, Treas. and Mgr.
CHARLES L. ASHLEY, Box 720, Atlanta, Ga.
JOHN E. HUMPHRIES, Box 843, Greenville, S. C.

The Processing, Dyeing and Finishing Of All Rayons

(*Continued from Page 12*)

with rollers sufficiently wide to carry goods under process. At the feeding-in end of the box, there is an opening device to open up the goods full width from the J-box or off of shell so as to prevent creasing of goods when they wind around the roller and are immersed in the caustic bath. The goods run over and under the rolls on this type of unit and are run through squeeze rolls as they leave box so as to remove the excess caustic solution. The squeezed goods are placed on a J-box or net and delivered to the boil-off box in five to twenty minutes according to the speed of the hook-up.

2—A type preferred by many plants uses the same size of iron box as No. 1, with a large roll that is immersed one-half of its diameter in the caustic solution. The goods are then acted upon slowly by the caustic and with more even results than is usually obtained with the smaller rolls used in No. 1.

After the goods are thoroughly impregnated with caustic, they are then carried by net to other end of box and lifted out by reel or roll, then travel onto the boil-off bath. See sketch No. 1 and sketch No. 2.

Boil-Off Units

Boil-off units are designed and built from the engineers' and practical dyers' viewpoints. In this article, the writer will discuss the two main general types; first, the small type that the "local" shop can build, and this usually consists of four to eght sections and the "specially designed" type that comes from the silk and rayon processing machinery makers.

3—The large units that are specially designed, consist of fifteen to twenty or more sections arranged whereby the goods during processing are free from tension, thus preventing the stretchng of the goods which tends to give uneven crepeng on finished goods. These units consist of a large steel box with fifteen or more subsections properly engineered as to circulation of processing liquors from one section to the other, so as to prevent unnecessary tangling of goods during the boil-off. The first few sections are used for hot water washers to remove caustic solution from goods, the next eight or ten sections contain the hot scouring (boil-off) bath which is run at 160-200° F., according to crepe desired. The last few sections are wash waters arranged so as to gradually cool the goods while rinsing them free of scouring agents and the last two sections are usually cold running wash waters. This permits the creped goods to be reeled off of box cooled and folded into J-box ready for dyeing or bleaching.

4—The smaller units are built locally as a rule and are composed of four to eight iron boxes of 150-250 gallons capacity each. The boxes are connected up in series with the first two boxes used for warm washes; the next two or four contain the scouring (boil-off) bath, which is run at 160-200° F., and the final box or two being used as cold rinses so as to cool the goods down gradually before it is reeled off and folded ready for redyeing.

Composition of Processing Baths
Caustic Bath

This bath varies from two to eight degrees Twaddle (2° to 8° Tw.) and it is best to predetermine on each type of construction as well as from different mills on the same type of construction, the correct strength of caustic necessary to secure the desired shrinkage and crepe required for the different qualities of goods.

Boil-Off Bath

Large unit with 15 to 20 or more sections with a capacity of 3,000 to 4,000 gallons (Using "zero" hardness Zeolite treated water supply)

25 pounds Fatty Alcohol paste or 12½ pounds Fatty Alcohol powder.

40 pounds Olive oil soap.

6-8 pounds Wetting out agent.

If the water is hard, then make an addition of Calgon (meta-phosphate) to the cold water and then add the other boil-off materials as listed—2-4 pounds Calgon.

Small unit of four to eight boxes, with an average of 200 per gallons per section.

For boxes containing the boil-off solution use:

6 to 12 pounds Tetra sodium Pyro Phosphate, or

15 to 30 pounds Tri-sodium Phosphate.

2 to 4 pounds Olive oil soap.

There will be no necessity of making an addition of Calgon to this bath to correct water for hardness as the phosphates take care of that.

On both of these processing baths it is necessary to make an addition of the fatty alcoholate, soaps, penetrants and phosphates after every 100 or more pieces have been run through the boil-off. It is best to test the finished goods as they come off of the last cold wash to see if they are free of caustic. This can be carried out by use of a chemical indicator paper of phenolpthalein.

The necessity for using the caustic treatment on these lighter weight goods is due to the lack of swelling action when using only mild alkalies or soap. These agents will not swell the viscose rayon fibers sufficieitly to secure the necessary shrinkage and crepeing action. It is only on treatment with caustic that the converting plants can obtain the desired crepe and shrinkage.

On heavier qualities of goods, they can be boiled-off on sticks in a half to one per cent olive oil soap bath or equivalent amount of fatty alcoholate with wetting out agent. The goods are run for an hour at 180° F. to 200° F., then given a hot and cold rinse and are ready for dyeing. There are variations of this method but this will give good running goods, satisfactory for dyeing and finishng.

Dyeing Process

Light shades are run on the paddler but the colors must be selected carefully so as to have similar rate of exhaustion, excellent penetration and leveling properties. The paddling is carried out at 150° F. or higher temperature with some very rapid wetting out agent, such as a Cresylic agent or other patented products now offered on the market.

The usual dyeing procedure is to run these rayon goods in bath with 1 to 2 per cent wetting out agent and ⅛ to

Sterling
Ring Travelers

RELIABLE

That is the way mill men all over the country feel about STERLING and their TRAVELERS. Why don't you give them a trial?

Call Our Southern Representatives

GEORGE W. WALKER
Box 1894
Greenville, S. C.

D. J. QUILLEN
Box 443
Spartanburg, S. C.

STERLING RING TRAVELER CO.
FALL RIVER, MASS.

IN NEW YORK
TIME IS IMPORTANT

If convenience is as important to you as it is to hundreds of other visitors to New York . . You, too, will make The Vanderbilt your New York headquarters. Close to important business and social centers. Transportation facilities to any part of Manhattan just outside the door. Cool, spacious rooms . . Modern in every detail.

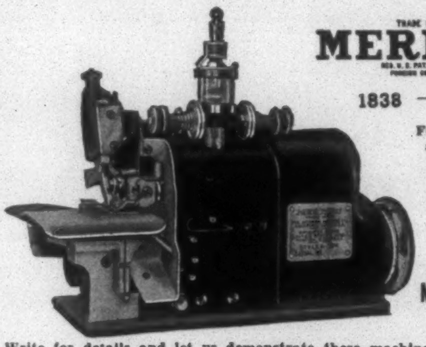
from $4 single—$6 double

The VANDERBILT HOTEL
PARK AVENUE AT 34th STREET, N. Y.

The Mayview Manor - Blowing Rock, N. C.

Spend Your Vacation at
BEAUTIFUL
Mayview Manor
BLOWING ROCK, N. C.

4,000 Feet Elevation—Average Temperature—67°
Golf—Tennis—Fishing—Riding
American Plan—Reasonable Rates
For Further Information, Write
JACK G. CRAFT, Manager



TRADE MARK
MERROW
REG. U. S. PAT. OFF. AND IN FOREIGN COUNTRIES
1838 —— 1938
For Overseaming and Overedging with maximum efficiency at High Speed and low operating cost
Modernize with the New
Merrow Class A Machines
Write for details and let us demonstrate these machines on your own fabrics.
THE MERROW MACHINE COMPANY
8 Laurel Street Hartford, Conn.
E. W. Hollister, P. O. Box 721
Spartanburg, S. C.
R. B. Moreland, P. O. Box 895
Atlanta, Ga.

HOTEL CHELSEA
RIGHT ON THE BOARDWALK
Here you will find everything to further your comfort and enjoyment — outside ocean-view rooms . . . sun deck . . . beautiful dining room at the ocean's edge . . . superb cuisine . . . varied sports . . . and entertainment. You'll like your fellow guests . . . and the delightfully friendly atmosphere of The Chelsea.
FROM $6 WITH MEALS & BATH
$3 ROOM ONLY & BATH
Per Person 2 in a Room Less Weekly
SPECIAL WEEKLY RATES
WRITE FOR BOOKLET AND INFORMATION
ATLANTIC CITY
JOEL HILLMAN · J. CHRISTIAN MYERS · JULIAN A HILLMAN

¼ per cent fatty alcohol, adding the dissolved dye at 120° F. and raising to 200° F. in 25 minutes, adding salt and running for 40 minutes before sampling. The steam should be cut off while salt addition is being made. After shade has been obtained, wash over till goods are cooled and water is clear. The softener and finishing materials may be added in final rinse water though most plants prefer to give this on the quetsch after the goods have been hydro-extracted, dryed, framed and ready for final framing.

If these dyed goods are to be used for discharge printing, only colors of the dischargeable type should be used and the dye-becks should be kept separate from goods being run on solid shades.

The goods are loaded on and dyed in regular dye-beck. These are made of stainless steel in all-metal, or metal lined wooden boxes with forward elliptical dye-beck for carrying goods through the bath.

The developed types of dischargeable colors are widely used for goods to be printed but these are much more expensive so the trend is to cheaper type of direct dischargeable types. Formaldehyde aftertreated colors are being used to some degree for this type of goods but the range of colors is limited at present though this type offer good fastness possibilities at present.

Finishing

All dyed rayon goods should be run on a shell after drying ready for being tentered or framed to initial width. The reasons for this are mainly: first, the goods can be fed onto the frame straight, thereby keeping the filling straight, and this is especially true on the frames equipped with electric feeder and a power swinging let-off stand; secondly, the on the goods can be governed to a greater degree when running off of a shell than when being fed off of folded goods where the operative must open up the goods and feed it over a bar. The operative naturally has less control over the tension under the latter method. It is best to feed the goods losely to the tenter frame, just keep the shell turning, so by these precuations undue tension can be eliminated.

On goods of this type it is desirable to frame first just under the required width so as to remove all creases or wrinkles, then give the finish on the quetsch at 120-160° F. This finishing formula gives good results with a soft full hand satisfactory for the trade.

8-10 lbs. Sulf. Tallow Emulsion.

4-6 lbs. Sulf. Olive Oil—

make up to 50 gallons and pass goods trough the quetsch at 120-160° F. The goods are now dryed on loose type dryer such as the "Air-layer" or loop dryer, then given a final framing slightly over the desired width, thus allowing for shrinkage during shipment to customer.

The goods are given a final inspection, then tubed, and packed for shipment.

There are some plants that have a large assortment of finishing equipment and others with a limited assortment. This article is written for plants with the latter arrangement.

The Southern Provinces

(Continued from Page 10)

tical weapon for defense and for offense, for offense in tearing apart the solid South in its fundamental, democratic ideals and a defense in case of failure to deliver the remedies.

The report is unfair in that it does not draw a complete picture. It shows only defects. It does not indicate any strong assets of the South, nor does it indicate any growth or progress. By inference of emphasis on weakness, there is implied a helplessness and an inability to cope with the situations discussed. This is manifestly unfair and it can be proven irrefutably by a different set of figures drawn from the same reports that the drab picture was secured. This is political insincerity, such an expression is redundancy. The records of the growth of the South in industry, farming, manufacturing, trade, commerce, education, good roads, schools, hospitals, eleemosynary institutions, social legislation and hundreds of other social and economic factors show a glory and growth almost unparalled in the nation.

No Cures Indicated

The report of the NEC is weak in that it does not recommend or indicate remedies for the evils. Of course, like all political canards, there is the implied inference for the reader to make, that ability to diagnose means ability to cure but to the practical minded, there is a vast difference between diagnosis and effective cure.

There may have been two political reasons for failure to indicate cures. The first one might have been a lack of desire to go on record with prescriptions which might prove failures and nopolitician likes to be on record about doubtful situations. The second might have been a lack of desire, or even a political fear, to indicate the cure or remedy because the ultimate end and the means to the end might be more repulsive than the conditions. In short, the cure might be more repulsive than the disease.

The report is also unfair in that it fails to indicate that the South has within itself the power and ability to save itself if given opportunity. What the South has suffered mostly from, has been the external oppressions rather than its own internal oppressions and exploitations. The report indicates Southern impotency and the need for national assistance—a very cageyly worded document of righteousness and appeal but motivated by political expediency and personal self-aggrandisement.

In examining any one fact or act, it is always advisable to study it carefully and try to ascertain its family connection. All plants and animals are seemingly different and yet they group themselves into families. Along with the Fair Labor Standards Act of 1938 and the report of the NEC, and the abrogation of the two-thirds rule in the National Convention, we find the Anti-Lynching Bill which has a background of political significance in trying to buy over the support of the negro votes in New York, Missouri, Illinois and other doubtful states. The foreground is humanitarian, the background political and totalitarian.

The real purport of the Anti-Lynching Bill has been so well explained in the press that it is useless to discuss it further than to place it in the family of punitive measures

TEXTILE STARCHES
O. K. Brand Pearl and Powdered Starches
Dixie Mill Thin Boiling and All Specialty Starches
Corn Syrup, Corn Oil, Corn Sugar
THE HUBINGER CO.
Since 1881
KEOKUK, IOWA
CHESTER M. GOODYEAR
Southeastern Sales Representative
1284 Piedmont Ave., N.E.
Phone Hemlock 4029
Atlanta, Ga.

IF IT'S PAPER
Send Us Your Order
Cloth Winding Boards
Jacquard Board—Beaming Paper
Toilet Tissues
Twines—Wrapping Paper—Boxes, etc.
DILLARD PAPER CO.
GREENSBORO, N. C. GREENVILLE, S. C.

SEYDEL
Est. 1904
SIZO-GEL—For Rayon Size
SIZOL—Softeners and Gums for Cotton
DESOL—Kier Assistant for Cotton
PARATOL—For Electrolysis Control in Kier
HYGROSOL—As Penetrant conditioning Cotton Filling
SEYDEL CHEMICAL COMPANY
(House of Service)
JERSEY CITY, N. J.
Greenville, S. C.
Harold P. Goller
Edgewood, R. I.
Alexander W. Anderson

CARECO
ONE-PIECE
FURNACE LINING
Reg. U.S. TRADE MARK Pat. Off.
For REPAIRING or LINING
A PLASTIC LINING USED IN PLACE OF FIRE BRICK
LONGER LASTING BOILER FURNACES
"Boiler furnaces lined with CARECO last two to four times longer than those lined with fire brick. Write for quotation."
CAROLINA REFRACTORIES CO
Hartsville, S. C.

trying to whip the South into complete submission and domination of New Deal Politics.

No Tariff Aid for South

The failure to protect the South from the inroads of jute and the failure to enact a law for selling cotton on a net weight basis is another member of this family of political sires. The granting of tariff relief to the sugar beet industry of the West was a bid for political support in a doubtful area, but it was felt that the Solid South could be whipped into line without disturbing the newly acquired support of those areas which would be affected by the passage of legislation effecting cures discussed in this paragraph.

The NEC report implies subsidies and control of many of those democratic ideals that have stimulated the progress and growth, the hope and faith, the ambition and desires of a free and untrammeled electorate. There are two kinds of relief. One kind helps a man to finally help himself and thus become independent and free again. Another kind helps a man to lose his self-respect and self-confidence and become more and more dependent and hence more susceptible to the domination of others.

This report of the NEC is an attempted display of help needed and a subterfuged hope that the assistance can be given and the vassalage secured.

It is rather alarming to sit down and list all of the alphabetical controls of government that are now in existence. It is distressing to study these and see the creeping, insinuating power over people and property that already exists. The South has always been conservative and yet progress is written in every town and at every cross road of its area.

The Blue Book of Southern Progress, edited and published by the Manufacturers Record Publishing Company has taken the records and reports of the U. S. Statistical Service and recorded a romantic growth and progress in this area during the past decades. This Blue Book Report is as rosey and delightful as the NEC Report is drab and disgusting.

The point to be considered always is the point of departure, the destination and whether or not progress is being made. When this point of view is taken rather than the one prejudicial view, the South should be congratulated rather than censured. The real story of the South's progress is appealing and no conditions existing now indicate that this area should sell its birthright for a totolitarian mess of pottage.

A secret service agent once remarked that law violators are finally caught because of the infallible psychology that a man who has not sense enough to do right has not sense enough to always keep himself covered up.

Now, mark you, this report was supposed to have been written by Southern men working diligently and astutely for the welfare of the South, and yet the last paragraph of the report records that the purchasing power of the South must be raised so that it can buy more products of the North. The North is losing much money and economic advantage because the South at the present time is unable to buy its products.

The report is distinctly disappointing. It is unfair. It is prejudicial. It is political and it does not recommend cures. It is distinctly materialistic in its background and shot through with behavioristic and fatalistic philosophy. It is full of emotional appeal which will erroneously aggravate minds unable to interpret its significance. Emotional spurts are necessary mental attitudes to finally effect cures or plans laid out with reason.

Conditions and cures must be cooly and carefully planned and agreed upon. They must be reasonable, and reasonable means factual, attainable and desirable. They must be understandable and capable of attack and defense. When such facts and plans have been ascertained and agreed upon, then it may take an emotional urge to put them into execution.

The report superfiicially purports social and economic desires and creates a highly depressing emotional state. The truth seems to be that the real purport of the report is political and the plans are secreted in the minds of the framers of the report, hence the emotional appeal for a subterfuged political advantage.

So much for the analysis of the content and aim of the report. Almost any section in the nation could be lifted up in an unfavorable light. There are no perfect conditions. The purpose of this article is not to condone or defend any unfavorable conditions now existing in our area. It is to show the malicious designing or a political strategy destroying the plans and patterns of the greatest democracy that the world has ever known.

We must make some decisions for ourselves and learn how to interpret the gifts that are borne in by the Greeks.

Buffalo Scale Co. Opens Southern Branch

Atlanta, Ga.—The Buffalo Scale Co., Inc., with factory and general office in Buffalo, N. Y., has opened a branch in Atlanta, Go. The plant is under the management of G. E. Daub, who has been engaged in the scale business in the South for the past twenty years.

The branch plant will carry large stocks, and is equipped with modern service department for th erepair and adjustment of any make or type of scale. The branch plant is located at 649 Whitehall St., S. W.

First Shift Carding Wins Safety Trophy At Silvertown

Silvertown, Ga.—The 1937-38 Safety Campaign at Martha Mills, Silvertown, Ga., was won by the first shift carding department, with a perfect score. For a period of one year this department did not have a single accident.

The Safety Afard, a beautiful silver and mahogany plaque, was presented to George Baker, captain of the winning team, by W. H. Gibson, general superintendent of Martha Mills.

Other departments with impressive records were: second shift twisting, A. S. Isbell team captain, score 999.2; third shift carding, C. E. Bagwell team captain, score 998.1; third shift twisting, T. B. Rogers team captain, score 997.7; cotton and waste division, C. C. Thompson team captain, score 996.

Classified Department

FOR SALE

One lot each Bahnson, American Moistening Co. and Parks-Cramer copper, high duty humidifier heads, with motors; 90 American Moistening Co. atomizer heads; 130 Parks-Cramer turbo atomizer heads; 6 x 4 horizontal air compressor with air receiver and after cooler; 6 x 6 vertical high pressure air compressor with air receiver; 3 American Moistening Co. membrane type humidity controls; 2 Parks-Cramer psychrostats; 4 x 4 Triplex humidifier pump.

G. A. WHITE & CO.
P. O. Box 533 Charlotte, N. C.

PAUL B. EATON
PATENT ATTORNEY
1408 Johnston Bldg.
Charlotte, N. C.
514 Munsey Bldg.
Washington, D. C.
Former Member Examining Corps
U. S. Patent Office

WANTED—Position by CAPABLE Overseer Weaving and Slasher rooms, in mills up to 2,000 looms. Open for immediate offer. Excellent references. Adress "PRODUCTION," care Textile Bulletin

BAHNSON
THE MODERN SYSTEM OF
AIR CONDITIONING
No Job Too Large or Too Small
BAHNSON CO., WINSTON-SALEM, N.C.

SPECIAL ITEMS FOR SALE

1—Economy Waste Baling Press, Style 654FPS.
60—Saco-Pettee 40" Cards, 10" or 12" Coilers.
40—Whitin 40" Cards, 12" Coilers.
36—H. & B. 40" Cards, 10" or 12" Coilers.
60—Whitin Tape Drive Spinning Frames, 3¼" Ga., 240 Sp.
10—F. & J. Wet Tape Drive Twisters, 3¼" Ga., 2¼" Ring, 200 Sp.
10—AMCO Auto. Humidity Controls.
1—Saco-Lowell Standard 7'-5' Cylinder Slasher.
1—H. L. Scott, J2, Cloth and Yarn Power Tester.
1—Toledo, No Spring Dormat Dial Scale, 1300 lb. Capacity.
1—Textile, 3 Roll, 60" Calender.

Send us your inquiries for all types of Textile Machinery.

J. H. WINDLE & COMPANY, TEXTILE MACHINERY
231 South Main St., Providence, R. I. Tel. Gaspee 6464

PICKER PETE SEZ:
CUSTOM MADE means a PERFECT FIT. Our belting is made to fit YOUR needs.

Phone 2218 (Day) 3916 (Nite)

GREENVILLE BELTING COMPANY
Manufacturers of Leather Belting
Mill Strapping and Loop Pickers

BARRETT
ROOFING
Specification
DAUGHTRY
HEET METAL CO.
1109 E. Trade Charlotte

SALESMAN WANTED

To represent well known manufacturer of Leather Belting. Southern territory. Must be experienced in this line and thoroughly reliable. Give full particulars first letter.
Address "Leather,"
Care Textile Bulletin

World Cotton Crop Substantially Smaller

The probable world cotton crop this season is above the present annual consumption rate, but it is substantially below the all cotton production of the 1937-38 season, the New York Cotton Exchange points out in its latest Trade Report.

"World all cotton production this season will be about $8,860,000 bales less than world all cotton production last season, but it will exceed world all cotton consumption last season by about 1,350,000 bales," the report said. "It is thus evident that unless world production of cotton this season is smaller than now seems probable, or the world uses more cotton this season than it used last season, or both happen, the world all cotton carryover at the end of this season, or on July 31, 1939, will be larger than that at the end of the season just closed."

Visiting the Mills

Intimate Glimpses of Activities in Southern Textile Plants and the Men Who Own and Operate Them.

By Mrs. Ethel Thomas Dabbs (Aunt Becky)

Pilot Mills, the Only Textile Plant Operating in Raleigh

Pilot Mill is a busy place, making over a hundred different patterns and grades of cloth, requiring more than a hundred and fifty kinds of filling. Pomona Mill at Greensboro is the only mill in the State that makes as many different kinds of cloth. It seems almost impossible that one small mill could manufacture such a varied line as does Pilot, which is not near as large as Pomona, but turns out a fine production of beautiful and excellent quality goods. In fact, anything the market wants can be made at Pilot—that is, anything in the way of novelties as well as standard colored goods.

There are many operatives here who have never worked in any other mill—operatives who are boosters for their mill and community. These people believe in going "over the top" in everything they undertake, and in athletics they lick the city teams easily. The city proper is so jealous of Pilot Mills that they whoop up visiting teams instead of Pilot.

Pilot girls' soft ball team played 23 games straight and won them all, along with the honor of being champions of the State. Aren't we proud of them? Carey Bennett is team manager.

In the weave room there is a bright-eyed little woman, Mrs. Mary Small, who has been working in this department 41 years, and is one of the best of weavers. She has never worked in any other mill, and is sure there is not another half as good, nor any officials as kind and obliging as those at Pilot.

The writer has never had the pleasure of meeting President and Treasurer Karl G. Hudson, but we are ready to agree with Mrs. Small that it would be hard to find a more pleasant and friendly gentleman than Secretary and Manager C. S. Tatum. He is an extremely busy man, but always has time to be courteous and to listen to any employee who wishes to talk with him.

Superintendent J. V. McCombs is well known in the textile field and has long been one of our best friends. And believe me, he is proud of his employees, and especially proud of the records made by the various athletic groups.

Overseers and Others

J. E. Cole is overseer carding; J. A. Nipper, night carder; R. H. Higgins, who served eleven years as overseer in Pomona Mills, Greensboro, is overseer spinning. His assistants are J. P. Peebles, J. L. Denton, L. J. Lassiter, P .F. Emory, and H. W. Edwards, who served with him for eleven years at Pomona. This department runs three shifts. J. G. Meacham and M. I. Treece are section men; H. H. Koontz, oiler; Sam Jones, formerly of Kingsport, Tenn., is another live wire in this department. John Ennis is spooler, or yarn hauler, and how he keeps tab on all the various colors and numbers is a puzzle. Somehow we think he has a mighty responsible place to fill, and he certainly must have a keen eye for colors.

L. C. Finley is day overseer and his brother, E. E. Finley, is night overseer; Howard Stroud and C. S. Howard are second hands; M. H. Sides, J. F. Kornegay, H. B. Meacham, J. E. Pulley, J. B. Strickland, T. T. Baker, T. W. Higgins, J. H. Dean and Blanco West are loom fixers on first shift, and they all take The TEXTILE BULLETIN—also Thomas Oglesby and Tom Smith, warp men, and C. T. Sessoman, a weaver, who is ambitious to work up.

Second shift loom fixers are L. B. Sides, head fixer, R. C. Rich, A. S. Davis, Troy Liner (he has every book I have written and says his father, a minister, often quoted from them in his sermons). R. C. Casper, F. W. Mingia, J. R. Womack, C. C. Purdee and W. J. Davis. D. A. Ammons, a weaver, W. V. Moore, tying-in man, and J. D. Ammons, smash hand, are all readers of our textile journal.

W. M. Richardson, in charge of shipping; P. N. Hughes, overseer dyeing; L. G. Strickland, second hand in dyeing; H. H. Cross and E. T. Danielly, overseers cloth room; E. B. Covington, head grader; S. G. Riley, designer; and E. T. Davidson, master mechanic, and last but not least, W. B. Warren, in warp department, and his charming wife who runs warpers.

Mr. and Mrs. Warren have a delightful home a few miles out in the country, and as usual, took charge of "Aunt Becky," who was anxious to see their retreat, and in spite of the rain we had a grand time. Mrs. Warren is terribly worried because her fine hogs "have no regard for sanitation" and will just "wallow in every mudhole they come to," regardless of how nicely she has them "bathed and manicured!"

Marketing Started On New Rayon Passenger Car Tires

The marketing of passenger cars tires of rayon has been started by two tire companies, U. S. Rubber Company and the Goodyear Tire & Rubber Co. The rayon yarn used is "Cordura," the strong type rayon yarn made by the rayon division of E. I. du Pont de Nemours & Co.

For some time a number of the tire manufacturing companies have been selling heavy-duty truck and bus tires. These have built up a reputation for performance in the hard runs with heavy loads, in the type of service where blowouts are a menace. The use of rayon has been found to generate less internal heat in a tire and likewise to deteriorate less as a result of this heat.

In addition to being resistant to blowouts, the use of rayon in the passenger car tires permits the manufacture of a lighter-weight tire with the strength and serviceability greater than that of a heavier tire.

The new rayon-containing tire is a four-ply tire in most cases, there being some six-ply for heavier cars. It is pointed out that this four-ply rayon tire is stronger than the conventional six-ply tire and in addition is a lighter tire. Not so long ago there was a trend in passenger car tire manufacture to tires of a great number of plies. However, it is the theory of some persons in the automotive trades that these tires with a high number of plies ride hard despite this, and the tendency has been to try to make the de luxe tires with a lower number of plies of a better type of textile material. The new Cordura rayon cord seems to fit into this picture.

The Goodyear tire is being sold under the name of "Double Eagle Airwheel" and the U. S. Rubber tire as "Royal Master." The prices of these tires place them in the premium tire class.

In explaining what makes the difference between this tire and the ordinary type, Goodyear states, "Ordinary cord consists of millions of tiny fibers a little more than an inch long twisted together, forming a rough, thick, bulky cord. Rayotwist (the company's name for its rayon cord) Cord is composed of smooth, slender, continuous rayon filaments—lighter, stronger and cooler-running because they cause less friction in flexing."

HUNTSVILLE, ALA.—Several hundred former operatives of the Merrimack Manufacturing Company, which normally employes approximately 1,200 operatives, returned to their duties in the mills. The mills resumed partial operations. The mills have been closed down since the first of this year.

GARLAND
LOOM PICKERS and
LOOM HARNESSES
GARLAND MFG CO.,
SACO, ME.
G

If it's QUALITY SERVICE and ACCURACY you require to RECONDITION YOUR SPINNING TWISTER FLYER and DRAWING FRAME STEEL ROLLS
CALL
THE NORLANDER MACHINE COMPANY
213 W. LONG AVE. GASTONIA, N. C.
TEL. 1084
We are also specialists in all kinds of FLYER and SPINDLE repairs and manufacture flyer pressers
OUR MOTTO
QUALITY AND SERVICE AT A MINIMUM COST
Has realized thousands of repeated orders

Southern Electric Service Company, Inc.
ELECTRICAL EQUIPMENT
SOLD, REPAIRED AND INSTALLED
Greenville, S. C. Spartanburg, S. C. Charlotte, N. C. Greensboro, N. C.

BULLETIN
Classified Ads
Bring Results at Low Cost
Make Your Wants Known Through
This Medium

Southern Sources of Supply

For Equipment, Parts, Material, Service

Following are the addresses of Southern plants, warehouses, offices, and representatives of manufacturers of textile equipment and supplies who advertise regularly in TEXTILE BULLETIN. We realize that operating executives are frequently in urgent need of information, service, equipment, parts and materials, and believe this guide will prove of real value to our subscribers.

ABBOTT MACHINE CO., Wilton, N. H. Sou. Agt., L. S. Ligon, Greenville, S. C.

ACME STEEL CO., THE, 2840 Archer Ave., Chicago, Ill. Sou. Sales Offices: Georgia—Atlanta, Acme Steel Co. of Ga., Inc., 603 Stewart Ave.; F. H. Webb, Mgr., 1281 Oxford Rd., N. E.; C. A. Carrell, 2135 Cascade Rd., S. W. North Carolina—Charlotte, F. G. German, 1617 Beverly Drive. South Carolina—Greenville, G R Easley, 107 Manly St. Tennessee—Signal Mountain, W. G. Polley, 802 James Blvd. Florida—Orlando, R. N. Sillars, 605 E. Gore Ave. Louisiana—New Orleans, J. C. Brill, 518 Gravier St.

AKRON BELTING CO., Akron, O. Sou. Branches, 903-905 Woodside Bldg., Greenville, S. C.; 390 S. Second St., Memphis, Tenn

ALLIS-CHALMERS MFG. CO., Milwaukee, Wis. Sou. Sales Offices: Atlanta, Ga., Healey Bldg., Berrien Moore, Mgr.; Baltimore, Md., Lexington Bldg., A. T. Jacobson, Mgr.; Birmingham, Ala., Webb Crawford Bldg., John J. Greagan, Mgr.; Charlotte, N. C., Johnston Bldg., William Parker, Mgr.; Chattanooga, Tenn., Tennessee Electric Power Bldg., D. S. Kerr, Mgr.; Cincinnati, O., First National Bank Bldg., W. G. May, Mgr.; Dallas, Tex., Santa Fe Bldg., E. W. Burbank, Mgr.; Houston, Tex., Shell Bldg., K. P. Ribble, Mgr.; New Orleans, La., Canal Bank Bldg., F. W. Stevens, Mgr.; Richmond, Va., Electric Bldg., C. L. Crosby, Mgr.; St. Louis, Mo., Railway Exchange Bldg., C. L. Orth, Mgr.; San Antonio, Tex., Frost National Bank Bldg., Earl R. Hury, Mgr.; Tampa, Fla., 415 Hampton St., H. C. Flanagan, Mgr.; Tulsa, Okla., 18 North Guthrie St., D. M. McCargar, Mgr.; Washington, D. C., Southern Bldg., H. C .Hood, Mgr.

ALROSE CHEMICAL CO., Providence, R. I. Sou. Rep., A. M. Burt, 1701 N. Elm St., Greensboro, N. C.

AMERICAN BLOWER CORP., Detroit, Mich. Sou. Offices: Court Square Bldg., Baltimore, Md.; 1211 Commercial Bank Bldg., Charlotte, N. C.; Rooms 716-19 101 Marietta St. Bldg., Atlanta, Ga.; 846 Baronne St., New Orleans, La.; 1005-6 American Bldg., Cincinnati, Ohio; 619 Mercantile Bldg., Dallas, Tex.; 201 Petroleum Bldg., 1314 Texas Ave., Houston, Tex.; 310 Mutual Bldg., Kansas City, Mo.; 620 S. 5th St., Architects & Bldrs. Exhibit Bldg., Louisville, Ky.; 1433 Oliver Bldg., Pittsburgh, Pa.; 7 North 6th St., Richmond, Va.

AMERICAN CASABLANCAS CORP., Johnston Bldg., Charlotte, N. C. Shipping Dept., 1000 W. Morehead St. F. Casablancas and J. Casablancas, Executives; J. Rabasa, Engineer; Fred P. Brooks, P. O. Box 941, Atlanta, Ga., Representative; American Casablancas Corp., P. O. Box 917, New Bedford, Mass.

AMERICAN COOLAIR CORP., Jacksonville, Fla. J. E. Graves, Jr., secretary-treasurer. Factory ventilating engineer, Clark R. Trimble, 205 Cottage Place, Charlotte, N. C.

AMERICAN CYANAMID & CHEMICAL CORP., 30 Rockefeller Plaza, New York City. Sou. Office and Warehouse, 822 W. Morehead St., Charlotte, N. C.; Hugh Puckett, Asst. Sou. Sales Mgr.

AMERICAN ENKA CORP., 271 Church St., New York City. Sou. Rep., R. J. Mebane, Asheville, N. C.

AMERICAN MOISTENING CO., Providence, R. I. Southern plant, Charlotte, N. C.

AMERICAN PAPER TUBE CO., Woonsocket, R. I. Sou. Rep., Ernest F. Culbreath, P. O. Box 11, Charoltte, N. C.

ARMSTRONG CORK PRODUCTS CO. (Textile Division). Lancaster, Pa. Sou. Office, 33 Norwood Place, Greenville, S. C. J. V. Ashley.

ARNOLD, HOFFMAN & CO., Inc., Providence, R. I. Frank W. Johnson, Sou. Mgr., Box 1268, Charlotte, N. C. Sou. Reps., Robert E. Buck, Box 904, Greenville, S. C.; Harold T. Buck, 1615 12th St., Columbus, Ga.; W. Chester Cobb, Hotel Russell Erskine, Huntsville, Ala.; D. Floyd Burns, Jr., Box 198, Durham, N. C.

ASHWORTH BROS., Inc., Charlotte, N. C. Sou. Offices, 44-A Norwood Place, Greenville, S. C.; 215 Central Ave., S. W., Atlanta, Ga.; Texas Rep., Textile Supply Co., Dallas, Tex.

ATLANTA HARNESS & REED MFG. CO., Atlanta, Ga. Succeeded by Steel Heddle Mfg. Co., Atlanta Division. (See this company's listing.)

BAHNSON CO., THE, Winston-Salem, N. C. North and South Carolina Rep., S. C. Stimson, Winston-Salem, N. C. Sou. Rep., I. L. Brown, 886 Drewery St., N. E., Atlanta, Ga. Northern Rep., F. S. Frambach, 703 Embree Crescent, Westfield, N. J. Western Rep., D. D. Smith, 906 W. Lovell St., Kalamazoo, Mich.

BANCROFT BELTING CO., Boston, Mass. Sou. Rep., Ernest F. Culbreth, 602 Commercial Bank Bldg., Charlotte, N. C.; Herbert Booth, Claridge Manor Apt., Birmingham, Al.a

BARBER-COLMAN CO., Rockford, Ill. Sou. Office, 31 W. McBee Ave., Greenville, S. C., J. H. Spencer, Mgr.

CHARLES BOND CO., 617 Arch St., Philadelphia, Pa. Sou. Reps., Harold C. Smith, Greenville, S. C.; Harold C. Smith, Jr., Greenville, S. C.; John C. Turner, P. O. Box 1344, Atlanta, Ga.

BORNE, SCRYMSER CO., 17 Battery Place, New York City. Sou. Mgr., H. L. Siever, P. O. Box 1169, Charlotte, N. C. Sales Reps., W. B. Uhler, 608 Palmetto St., Spartanburg, S. C.; R. C. Young, 1216 Kenilworth Ave., Charlotte, N. C.; John Ferguson, 303 Hill St., LaGrange, Ga.

BROWN CO., DAVID, Lawrence, Mass. Sou. Reps., Ralph Gossett, Woodside Bldg., Greenville, S. C.; William J. Moore, Woodside Bldg., Greenville, S. C.; Belton C. Plowden, Griffin, Ga.; Gastonia Mill Supply Co., Gastonia, N. C.; Russell A. Singleton Co., Inc., Dallas, Tex.

BUTTERWORTH & SONS CO., H. W., Philadelphia, Pa. Sou. Rep., J. H. Zahn, Johnston Bldg., Charlotte, N. C.

CAMPBELL & CO., JOHN, 75 Hudson St., New York City. Sou. Reps., M. L. Kirby, P. O. Box 432, West Point, Ga.; Mike A. Stough, P. O. Box 701, Charlotte, N .C.; A. Max Browning, Hillsboro, N. C.

CAROLINA REFRACTORIES CO., Hartsville, S. C.

CHARLOTTE CHEMICAL LABORATORIES, Inc., Charlotte, N. C.

CHARLOTTE LEATHER BELTING CO., Charlotte, N. C.

CIBA CO., Inc., Greenwich and Morton Sts., New York City. Sou. Offices and Warehouses, Charlotte, N. C.

CLINTON CO., Clinton, Iowa. Luther Knowles, Sou. Agt., Box 127, Telephone 2-2486, Charlotte, N. C. Sou. Reps., Grady Gilbert, Telephone 1132, Concord, N. C.; Clinton Sales Co., Inc., W. T. Smith, 2 Morgan Bldg., Greenville, S. C.; Lee Gilbert, Box 481, Tel. 2913, Spartanburg, S. C.; A. C. Boyd, 1071 Bellevue Drive, N. E., Tel. Hemlock 7055, Atlanta, Ga.; Dana H. Alexander (Mill and Paper Starch Div.), Birmingham, Ala. Stocks carried at Carolina Transfer & Storage Co., Charlotte; Consolidated Brokerage Co., Greenville, S .C.; Atlanta Service Warehouse, Atlanta.

COOLING & AIR CONDITIONING CORP., THE, 101 Marietta St., Atlanta, Ga., J. C. Marlow, Mgr.; 708 Guilford Bldg., Greensboro, N. C., A. B. Wason, Mgr.

CORN PRODUCTS REFINING CO., 17 Battery Place, New York City. Corn Products Sales Co., Greenville, S. C., John R. White, Mgr.; Corn Products Sales Co., Montgomery Bldg., Spartanburg, S. C., J. Canty Alexander, Asst. Sou. Mgr.; Corn Products Sales Co. (Mill and Paper Starch Div.), Hurt Bldg., Atlanta, Ga., C. G. Stover, Mgr.; Corn Products Sales Co., 824-25 N. C. Bank Bldg., Greensboro, N. C., W. R. Joyner, Mgr.; Corn Products Sales Co., Comer Bldg., Birmingham, Ala., L. H. Kelley, Mgr. Stocks carried at convenient points.

CROMPTON & KNOWLES LOOM WORKS, Worcester, Mass. Sou. Plant, Charlotte, N. C.

CUTLER, ROGER W., 141 Milk St., Boston, Mass. Sou. Office, Woodside Bldg., Greenville, S. C. Southern Tape Agent: Byrd Miller, Woodside Bldg., Greenville, S. C. Roll Agents: Dixie Roller Shop, Rockingham, N. C.; A. J. Whittemore & Sons, Burlington, N. C.; Dixie Roll & Cot Co., Macon, Ga.; Morrow Roller Shop, Albemarle, N. C.; Greenville Roll & Leather Co., Greenville, S. C. Take Up Roll Agent: M. Bradford Hodges, Box 752, Atlanta, Ga.

DARY RING TRAVELER CO., Taunton, Mass. Sou. Rep., John E. Humphries, P. O. Box 843, Greenville, S. C.; Chas. L. Ashley, P. O. Box 720, Atlanta, Ga.

DAUGHTRY SHEET METAL CO., Charlotte, N. C.

DENISON MFG. CO., THE, 145 Lyman St., Asheville, N. C. Sou. Rep., L. B. Denison, Genl. Mgr.

DILLARD PAPER CO., Greensboro, N. C., Greenville, S. C., Charlotte, N. C.

DRAKE CORP., Norfolk, Va.

DRAPER CORPORATION, Hopedale, Mass. Sou. Rep., E. N. Darrin, Vice-Pres.; Sou. Offices and Warehouses, 242 Forsyth St., S. W., Atalnta, Ga., W. M Mitchell; Spartanburg, S. C., Clare H. Draper, Jr.

DU PONT DE NEMOURS & CO., Inc., E. I., Organic Chemicals Dept., Dyestuffs and Fine Chemicals Div., Wilmington, Del. John L. Dabbs, Sou. Sales Mgr.; D. C. Newman, Asst. Sou. Sales Mgr.; J. D. Sandridge, Asst. Sou. Sales Mgr.; E. P. Davidson, Asst. Mgr. Technical. Sou. Warehouses, 414 S. Church St., Charlotte, N. C. Reps., C. H. Asbury, H. B. Constable, J. P. Franklin, J. F. Gardner, L. E. Green, M. D. Haney, W. R. Ivey, S. A. Fettus, A. W. Picken, N. R. Vieira, Charlotte Office; J. T. McGregor, Jr., James A. Kidd, 1035 Jefferson Standard Bldg., Greensboro, N. C.; John L. Dabbs, Jr., G. H. Boyd, 804 Provident Bldg., Chattanooga, Tenn.; R. D. Sloan, T. R. Johnson, Greenille, S. C.; W. F. Crayton, Adam Fisher, Jr., W. A. Howard, Columbus, Ga.; J. A. Franklin, Augusta, Ga.; Tom Taylor, Newnan, Ga.

DU PONT DE NEMOURS & CO., E. I., Grasselli Chemicals Dept., Wilmington, Del. Howard J. Smith, Dist. Sales Mgr., W. F. Hummel, Salesman, 414 S. Church St., Charlotte, N. C.

DU PONT DE NEMOURS & CO., E. I., Rayon Div., F. H Coker, Dist. Sales Mgr., 414 S. Church St., Charlotte, N. C. Acetate Div., J. J. Cook, Dist. Sales Mgr., 414 S. Church St., Charlotte, N. C.

DU PONT DE NEMOURS & CO., Inc., E. I., The R. & H. Chemicals Dept. Main Office, Wilmington, Del.; Charlotte Office, 414 S. Church St., LeRoy Kennette, District Sales Mgr. Reps., J. L. Moore, Technical Man, Penn R. Lindsay, Salesman, 414 S. Church St.; John C. Robertson, 1220 Passadena Ave., Atlanta, Ga., Technical Man; R. C. Cochrane, 356 Pine Tree Drive, Atlanta, Ga., Salesman; W. F. Murphy, 1106 19th Ave., Nashville, Tenn., Ceramic Salesman.

EATON, PAUL B., 213 Johnston Bldg., Charlotte, N. C.

ENGINEERING SALES CO., 217 Builders' Bldg., Charlotte, N. C., S. R. and V. G. Brookshire.

FOSTER MACHINE CO., Westfield, Mass. Sou. Office, 813 Johnston Bldg., Charlotte, N. C.

FRANKLIN MACHINE CO., 44 Cross St., Providence, R. I.

FRANKLIN PROCESS CO., Providence, R. I. Sou. Plants, Greenville, S. C., and Chattanooga, Tenn.

FREDERICK IRON & STEEL CO., THE, Frederick, Md. Sou. Reps., R. L. Selby, Piedmont Engineering Co., Charlotte, N. C.; Boiler Equipment Service Co., Atlanta, Ga.

GENERAL COAL CO., 1215 Johnston Bldg., Charlotte, N. C., C. L. Rowe, Sou. Sales Mgr. Reps., J. W. Lassiter, F. W. Reagan, E. H. Chapman, Charoltte, N. C.; J. C. Borden, Grace American Bldg., Richmond, Va.; D. H. R. Wigg, Wainwright Bldg., Norfolk, Va.; W. A. Counts, Law & Commerce Bldg., Bluefield, W. Va.; H. C. Moshell, Peoples Bank Bldg., Charleston, S. C.; P. W. Black, Greenville, S. C.; H. G. Thompson, Bristol, Tenn.

GENERAL DYESTUFF CORP., 435 Hudson St., New York City. Sou. Office and Warehouse, 1101 S. Blvd., Charlotte, N. C., B. A. Stigen, Mgr.

GENERAL ELECTRIC CO., Schenectady, N. Y. Sou. Sales Offices and Warehouses, Atlanta, Ga., E .H. Ginn, Dist. Mgr.; Charleston, W. Va., W. L. Alston, Mgr.; Charlotte, N. C., E. P. Coles, Mgr.; Dallas, Tex., L. T. Blaisdell, Dist. Mgr.; Houston, Tex., E. M. Wise, W. O'Hara, Mgrs.; Oklahoma City, Okla., F. D. Hathway, B. F. Dunlap, Mgrs. Sou. Sales Offices, Birmingham, Ala., R. T. Brooke, Mgr.; Chattanooga, Tenn., W. O. McKinney, Mgr.; Ft. Worth, Tex., A. H. Keen, Mgr.; Knoxville, Tenn., A. B. Cox, Mgr.; Louisville, Ky., E. B. Myrick, Mgr.; Memphis, Tenn., G. O. McFarlane, Mgr.; Nashville, Tenn., J. H. Barksdale, Mgr.; New Orleans, La., B. Willard, Mgr.; Richmond, Va., J. W. Hicklin, Mgr.; San Antonio, Tex., I. A. Uhr, Mgr.; Sou. Service Shops, Atlanta, Ga.; W. J. Selbert, Mgr.; Dallas, Tex., W .F. Kaston, Mgr.; Houston, Tex., F. C. Bunker, Mgr.

GENERAL ELECTRIC VAPOR LAMP CO., Hoboken, N. J. Sou. Reps., Frank E. Keener, 187 Spring St., N. W., Atlanta, Ga.; C. N. Knapp, Commercial Bank Bldg., Charlotte, N. C.

GILL LEATHER CO., Salem, Mass. Sou. Reps., Gastonia, N. C., W. G. Hamner; Greenville, S. C., W. J. Moore, Ralph Gossett; Dallas, Tex., Russell A. Singleton Co., Inc; Griffin, Ga., Belton C. Plowden.

GOODYEAR TIRE & RUBBER CO., Inc., THE, Akron, O. Sou. Offices and Reps., W. C. Killick, 209-11 E. 7th St., Charlotte, N. C.; W. Reynolds Barker, 141 N. Myrtle Ave., Jacksonville, Fla.; C. O. Roome, 500-6 N. Carrollton Ave., New Orleans, La.; J. H. Neiberding, 1128 Union Ave., Memphis, Tenn.; W. R. Burtle, 3rd and Guthrie, Louisville, Ky.; R. G. Abbott, Allen and Broad Sts., Richmond, Va.; E. A. Filley and R. B. Warren, 214 Spring St., N. W., Atlanta, Ga.; J. L. Sinclair, 700 S. 21st St., Birmingham, Ala.; Atlanta Belting Co., Atlanta, Ga.; Battey Machinery Co., Rome, Ga.; Bluefield Supply Co., Bluefield, W. Va.; Gastonia Mill Supply Co., Gastonia, N. C.; Knoxville Belting & Supply Co., Knoxville, Tenn.; Laurel Mach. & Fdry. Co., Laurel, Miss.; Orlando Armature Works, Orlando, Fla.; McComb Supply Co., Harlan, Ky., and Jellico, Tenn.; Mills & Lupton Supply Co., Chattanooga, Tenn.; Mississippi Fdry. & Mach. Co., Jackson, Miss.; Moore-Handley Hdwe. Co., Birmingham, Ala.; Morgan's, Inc., Savannah, Ga.; Mulberry Supply Co., Mulberry, Fla.; C. T. Patterson Co., Inc., New Orleans, La.; Pensacola Tool & Supply Corp., Pensacola, Fla.; I. W. Philips ,Tampa, Fla.; Pye-Barker Supply Co., Atlanta, Ga.; Railey Milam Hdwe. Co., Miami, Fla.; Sullivan Hdwe. Co., Anderson, S. C.; Superior Iron Works & Supply Co., Shreveport, La.; Taylor Iron Works & Supply Co., Macon, Ga.; Textile Mill Supply Co., Charlotte, N. C.; Tidewater Supply Co., Norfolk, Va., Columbia, S. C., Asheville, N. C.

GREENVILLE BELTING CO., Greenville, S. C.

GULF OIL CORPORATION OF PA., Successor to **GULF REFINING CO.**, Pittsburgh, Pa. Division Sales Offices: Atlanta, Ga.—A. M. Wright, Greenville, S. C.; T. C. Scaffe, Spartanburg, S. C.; J. H. Hooten, Gastonia, N. C.; R. G. Burkhalter, Charlotte, N. C.; G. P. King, Jr., Augusta, Ga.; Boston, Mass.; New York, N. Y.; Philadelphia, Pa.; New Orleans, La.; Houston, Tex.; Louisville, Ky.; Toledo, O.

HART PRODUCTS CORP., 1440 Broadway, New York City. Sou. Mgr., Charles C. Clark, Box 274, Spartanburg, S. C. Sales Reps., Tally W. Piper, Box 534, Fairfax, Ala., W. R. Sargent, Greenville, S. C.

H & B AMERICAN MACHINE CO., Pawtucket, R. I. Sou. Offices, 815 The Citizens and Southern National Bank Bldg., Atlanta, Ga., J. C. Martin, Agt.; Johnston Bldg., Charlotte, N. C., Elmer J. McVey, Mgr.; Fritz Sweifel, Fred Dickinson, Jim Miller, sales and service representatives.

HERCULES POWDER COMPANY, Wilmington, Del. Distributors—Burkart-Schier Chemical Co., Chattanooga, Tenn.; Hercules Powder Co., Paper Makers Chemical Div., Atlanta, Ga. Warehouses—American Storage and Warehouse Co., 505-513 Cedar St., Charlotte, N. C.; Textile Warehouse Co., 511-513 Rhett St., Greenville, S. C.; South Atlantis Bonded Warehouse Corp., Washington and Macon Sts., Greensboro, N. C.

HERMAS MACHINE CO., Hawthorne, N. J. Sou. Rep., Carolina Specialty Co., P. O. Box 520, Charlotte, N. C.

HOLBROOK RAWHIDE CO., Providence, R. I. Sou. Distributors, Odell Mill Supply Co., Greensboro, N. C.; Textile Mill Supply Co., and Charlotte Supply Co., Charlotte, N. C.; Gastonia Mill Supply Co., Gastonia, N. C.; Sullivan Hdw. Co., Anderson, S. C.; Montgomery & Crawford, Spartanburg, S. C.; Carolina Supply Co., Greenville, S. C.; Fulton Supply Co., Atlanta, Ga.; Southern Belting Co., Atlanta, Ga.; Greenville Textile Mill Supply Co., Greenville, S. C., and Atlanta, Ga.; Young & Vann Supply Co., Birmingham, Ala.; Waters-Garland Co., Louisville, Ky.

HOUGHTON & CO., E. F., 240 W. Somerset St., Philadelphia, Pa. Sou. Sales Mgr., W. H. Brinkley, 1301 W. Morehead St., Charlotte, N. C. Sou. Reps., Walter Andrew, 1306 Court Square Bldg., Baltimore, Md.; C. L. Elgert, 1306 Court Square Bldg., Baltimore, Md.; S. P. Schwoyer, 507 N. Main St., High Point, N. C.; D. O. Wylie, 1301 W. Morehead St., Charlotte, N. C.; J. J. Reilly, 2855 Peachtree Rd., Atlanta, Ga. (Apt. 45); H. F. Graul, 605 Idlewild Circle, Birmingham, Ala.; V. C. Shadden, 1821 Auburndale Ave., Chattanooga, Tenn.; B. E. Dodd, 333 St. Charles St., New Orleans, La.; J. W. Byrnes, 333 St. Charles St., New Orleans, La.; G. J. Reese, 402 S. Independence St., Sapulpa, Okla.

HOUGHTON WOOL CO., 253 Summer St., Boston, Mass. Sou. Rep., Jas. E. Taylor, P. O. Box 2084, Phone 3-3692, Charlotte, N. C.

HOWARD BROS. MFG. CO., Worcester, Mass. Sou. Office and Plant, 244 Forsyth St., S. W., Atlanta, Ga., Guy L. Melchor, Mgr. S. W. Rep., Russell A. Singleton Co., Inc., Mail Route 5, Dallas, Tex.; J. Floyd Childs, 244 Forsyth St., S.W., Atlanta, Ga.

HUBINGER CO., THE, Keokuk, Iowa. Southeastern Sales Rep., Chester M. Goodyear, 1284 Piedmont Ave., N.E., Atlanta, Ga. Warehouse stocks at Greenville, S. C., Winston-Salem, N. C., Atlanta, Ga.

KENNEDY CO., W. A., 814 S. Tryon St., Charlotte, N. C. W. A. Kennedy, Pres.

JACOBS MFG. CO., E. H., Danielson, Conn. Sou. Rep., W. Irving Bullard, Pres., Charlotte, N. C., Mgr. Sou. Service Dept., S. B. Henderson, Greer, S. C.; Dan B. Griffin, Southern Sales Rep., E. H. Jacobs Mfg. Co. Sou. Distributors, Odell Mill Supply Co., Greensboro, N .C.; Textile Mill Supply Co., and Charlotte Supply Co., Charlotte, N. C.; Gastonia Mill Supply Co., Gastonia, N. C.; Shelby Supply Co., Shelby, N. C.; Sullivan Hdw. Co., Anderson, S. C.; Montgomery & Crawford, Spartanburg, S. C.; Industrial Supply Co., Clinton, S. C.; Carolina Supply Co., Greenville, S. C.; Fulton Supply Co., Atlanta, Ga.; Southern Belting Co., Atlanta, Ga.; Greenville Textile Mill Supply Co., Greenville, S. C., and Atlanta, Ga.; Young & Vann Supply Co., Birmingham, Ala.; Waters-Garland Co., Louisville, Ky.

JACKSON LUMBER CO., Lockhart, Ala.

KEEVER STARCH CO., Columbus, O. Sou. Office, 1200 Woodside Bldg., Greenville, S. C.; Daniel H. Wallace, Sou. Agt. Sou. Warehouses, Greenville, S. C., Charlotte, N. C. Sou. Reps., Claude B. Iler ,P. O. Box 1383, Greenville, S. C.; Luke J. Castile, 515 N. Church St., Charlotte, N. C.; F. M. Wallace, 1115 S. 26th St., Birmingham, Ala.

LAUREL SOAP MFG. CO., Inc., 2607 E. Tioga St., Philadelphia, Pa. Sou. Rep., A. Henry Gaede, P. O. Box 1083, Charlotte, N. C.

McLEOD, INC., WILLIAM, 33 Elm St., Fall River, Mass. Sou. Rep., Edward Smith, Asheboro, N. C.

MAGUIRE & CO., JOHN P., 370 Fourth Ave., New York City. Sou. Rep., Taylor R. Durham, First National Bank Bldg., Charlotte, N. C.

THE MERROW MACHINE CO., 8 Laurel St., Hartford, Conn. E. W. Hollister, P. O. Box 721, Spartanburg, S. C.; R. B. Moreland, P. O. Box 895, Atlanta, Ga.

MOCCASIN BUSHING CO., Chattanooga, Tenn. Sou. Jobbers: Odell Mill Supply Co., Greensboro, N. C.; Shelby Supply Co., Shelby, N. C.; Greenville Textile Supply Co., Greenville, S. C.; M. C. Thurston Co., Richmond, Va.; Ferebee-Johnson Co., Lynchburg, Va.; Knoxville Belting Co., Knoxville, Tenn.; Miss. Foundry & Mch. Co., Jackson, Miss.; Corinth Machine Co., Corinth, Miss.; Industrial Supplies Co., LaGrange, Ga.; Philips Hdw. & Supply Co., Columbus, Ga.; Macon Supply Co., Macon, Ga.; Owen-Richards Co., Birmingham, Ala.; Matthews-Morse Sales Co., 909 S. Mint St., Charlotte, N. C.

NATIONAL OIL PRODUCTS CO., Inc., Harrison, N. J. Sou. Offices and Plant, Cedartown, Ga. Sou. Reps., D. Rion, Cedartown, Ga.; C. E. Elphick, 100 Buist Ave., Greenville, S. C.; R. B. MacIntyre, care D. G. MacIntyre, Franklinton, N. C.; Paul Starke, 2026 Eaton Place, Baltimore, Md.; G. H. Small, 226 Bolling Road, Atlanta, Ga. Warehouse, Chattanooga, Tenn.

NATIONAL RING TRAVELER CO., 257 W. Exchange St., Providence, R. I. Sou. Office and Warehouse, 131 W. First St., Charlotte, N. C., Sou. Agt., C. D. Taylor, Gaffney, S. C. Sou. Reps., L. E. Taylor, Box 272, Atlanta, Ga.; Otto Pratt, Gaffney, S. C.; H. B. Askew, Box 272, Atanta, Ga.

NEW ENGLAND BOBBIN & SHUTTLE CO., Nashua, N. H. Sou. Rep., D. C. Ragan, High Point, N. C.

N. Y. & N. J. LUBRICANT CO., 292 Madison Ave., New York City. Sou. Office, 1000 W. Morehead St., Phone 3-7191, Charlotte, N. C., Spartanburg, S. C., Atlanta, Ga., Greenville, S. C.

NORLANDER MACHINE CO., New Bedford, Mass. Sou. Plant, 213 W. Long St., Gastonia, N. C.

NORMA-HOFFMANN BEARINGS CORP., Stamford, Conn. Sou. Rep., E. W. Lawrence, 1841 Plaza, Charlotte, N. C.

ONYX OIL & CHEMICAL CO., Jersey City, N. J. Sou. Rep., Edwin W. Klumph, 2018 Dilworth Road, West, Charlotte, N. C.; Cliff C. Myers, 2131 Charlotte Drive, Charlotte, N. C.

PARKS-CRAMER CO., Plants at Fitchburg, Mass., and Charlotte, N. C. Atlanta Office, Bona Allen Bldg.

PERKINS & SON, Inc., B. F., Holyoke, Mass.

PROVIDENT LIFE & ACCIDENT INS. CO. (Group Accident and Health, and Welfare Plans Div.), Chattanooga, Tenn. Southeastern Div. Office, 203 Commercial Bldg., Gastonia, N. C.

THE PURE OIL CO., Industrial Sales Dept., Southeastern Division Office, 140 Spring St. S. W., Atlanta, Ga., O. T. Clark, Mgr.

RHODE ISLAND TOOL CO., Providence, R. I. Sou. Rep., Henry Anner, Box 1515, Greenville, S. C.

RHOADS, J. E. & SONS, 35 N. Sixth St., Philadelphia, Pa. Sou. Reps., L. H. Schwoebel, 513 N. Spring St., Winston-Salem, N. C.; J. W. Mitchell, Box 1589, Greenville, S. C.; A. S. Jay, 1600 S. 21st St., Birmingham, Ala.; J. T. Hoffman, 88 Forsyth St., S. W., Atlanta, Ga.; Atlanta Store, C. R. Mitchell, Mgr., 88 Forsyth St., S. W., Phone Walnut 5915, Atlanta, Ga.

ROY & SONS, B. S., Worcester, Mass. Sou. Office, Greenville, S. C., John R. Roy, Representative.

SACO-LOWELL SHOPS, 60 Batterymarch St., Boston, Mass. Sou. Office and Supply Depot, Charlotte, N. C., Walter W. Gayle, Sou. Agent; Atlanta, Ga., John L. Graves and Miles A. Comer, Selling Agents; Greenville, S. C., H. P. Worth, Selling Agent.

SEYDEL CHEMICAL CO., Jersey City, N. J. Sou. Rep., Harold P. Goller, Greenville, S. C.; Alexander W. Anderson, 10 Milton Ave., Edgewood, R. I.

SEYDEL-WOOLLEY & CO., 748 Rice St., N. W., Atlanta, Ga.

SHERWIN-WILLIAMS CO., THE, Cleveland, O. Sou. Warehouses: Richmond, 1315 E. Main St.; Savannah, 655 E. Liberty St.; Charlotte, 222 W. First St.; Spartanburg, 158 E. Main St.; Columbia, 1713 Main St.; Atlanta, 70 Broad St., N. W.; Columbus, 1038 Broadway; Nashville, 711 Church St.; Chattanooga, 826-28 Broad St.; Birmingham, 2016 Third Ave., N.; Montgomery, 33 Commerce St.; Knoxville, 314 S. Gay St. Sou. Reps., E. H. Steger, 222 W. 1st St., Charlotte, N. C.; R. B. Olney, 158 E. Main St., Spartanburg, S. C.; W. O. Masten, 2308 S. Main St., Winston-Salem, N. C.; T. R. Moore, 509 Westover Ave., Roanoke, Va.; G. N. Jones, 207 Glascock St., Raleigh, N. C.; W. H. Mastbrook, 105 W. Iver St., Greensboro, N. C.; John Limbach, 70 Broad St., N. W., Atlanta, Ga.; D. S. Shimp, 3 Cummins Station, Nashville, Tenn.; O. A. King, Apt. 1, 2400 Barton Ave., Richmond, Va.; James C. Wilkinson, 230 Bay View Blvd., Portsmouth, Va.; M. P. Forte, 1038 Broadway, Columbus, Ga.

SIGNODE STEEL STRAPPING CO., 2600-2620 N. Western Ave., Chicago, Ill. Sou. Warehouses and Offices, Greensboro, N. C., 908 Lakeview St., Phone 6935, O. B. Shelton, Rep.; Atlanta, Ga., 113 Courtland St., S. E., A. S. Stephens, Rep.; New Orleans, La., 700 Tchoupitoulas St., P. E. Odenhahl, Rep.

SNAP-ON TOOLS CORP., Kenosha, Wis. 623 Spring St., N. W., Atlanta, Ga.; 20 E. 21st St., Baltimore, Md.; 2809 Main St., Dallas, Tex.; 119 W. Ashley St., Jacksonville, Fla.; 2516 Grand Ave., Kansas City, Mo.; 940 Poydras St., New Orleans, La.; 1645 W. Broad St., Richmond, Va.; 2647 Washington Blvd., St. Louis, Mo.

SOCONY-VACUUM OIL CO., Inc., Southeastern Div. Office, 1602 Baltimore Trust Bldg., Baltimore, Md. Warehouses: Union Storage Warehouse Co., 1000 W. Morehead St., Charlotte, N. C.; Textile Warehouse Co., 511 Rhett St., Greenville, S. C.; South Atlantic Bonded Warehouse Co., Greensboro, N. C.; New South Express Lines, Columbia, S. C.; Terminal Storage Corp., 317 N. 17th St., Richmond, Va.; Taylor Transfer Co., 102 Boush St., Norfolk, Va.

SONOCO PRODUCTS CO., Hartsville, S. C.

SOUTHERN SPINDLE & FLYER CO., Charlotte, N. C.

STALEY MFG. CO., A. E., Decatur, Ill. Sou. Offices, 1710 Rhodes-Haverty Bldg., Atlanta, Ga., Wm. H. Randolph, Jr., Sou. Mgr., L. A. Dillon, Asst. Sou. Mgr., 812 Montgomery Bldg., Spartanburg, S. C.; Geo. A. Dean. Reps. W. T. O'Steen, Greenville, S. C.; H. F. Taylor, Jr., Monroe, N. C.; John T. Higginbothem; H. A. Mitchell, Birmingham, Ala.

STEEL HEDDLE MFG. CO., Main Office and Factory, 2100 W. Allegheny Ave., Philadelphia, Pa. Greensboro Office, Guilford Bank Bldg., Greensboro, N. C.—C. W. Cain, V. A. Graff; Greenville Plant, P. O. Box 1899, Greenville, S. C.—J. J. Kaufmann, Jr., Asst. V.-Pres. and Mgr. of Sou. Divisions, H. E. Littlejohn, Davis L. Batson; Atlanta Plant, P. O. Box 1496, Atlanta, Ga.—H. Raiford Gaffney, Barney Cole, G. P. Carmichael, Ralph Ragan.

STEIN, HALL & CO., Inc., 285 Madison Ave., New York City. Sou. Office, Johnston Bldg., Charlotte, N. C., Ira L. Griffin, Mgr.

STERLING RING TRAVELER CO., 101 Lindsey St., Fall River, Mass. Sou. Rep., Geo. W. Walker, P. O., Box 1894, Greenville, S. C.; D. J. Quillen, P. O. Box 443, Spartanburg, S. C.

STEWART IRON WORKS CO., Cincinnati, Ohio. Sou. Reps., Ruff Hardware Co., 1649 Main St., Columbia, S. C.; Peterson-Stewart Fence Constr. Co., 241 S. Liberty St., Spartanburg, S. C.; Prince Street Fuel Yard, Prince and Fraser Sts., Georgetown, S. C.; George E. Cherry, Jr., Pactolus, N. C.; Lewis L. Merritt, P. O. Box 176, Wilmington, N. C.; Durham Builders Supply Co., Milton Ave. at Main St., Box 481, Durham, N. C.; Walter Lawrenson, 408 Church St., Greensboro, N. C.; Gregg Ferring, care R. A. Brand, 203 Latta Arcade, Charlotte, N. C.; John E. Johnson, Box 743, Nashville, Tenn.; Fischer Lime & Cement Co., 263 Walnut St., Memphis, Tenn.; National Guard Products, Inc., 400 S. Front St., Memphis, Tenn.; Eustis A. Lancaster, Jr., John Sevier Hotel Bldg., Roan St. at Fonde Circle, Johnson City, Tenn.; R. G. Jeffries, 409 W. Clinch Ave., Knoxville, Tenn.; Hibbler-Barnes Co., 700 Block, E. Tenth St., Chattanooga, Tenn.; Cromer & Thornton, Inc., 215 Decatur St., S. E., Atlanta, Ga.; R. W. Didschuneit, 1733 Candler Bldg., Atlanta, Ga.; A. H. McAfee & Son, 363 Hopkins St., S. W., Atlanta, Ga.; Barum Co., 661-669 Ninth St., Augusta, Ga.; R. L. Clarke, care Dunlap Roofing Co., 266 Fifth St., Macon, Ga.; R. E. L. Shaw, 712 S. 10th Ave., Birmingham, Ala.; B. S. Coop, 1601 Katherwood Drive, S. W., Atlanta, Ga.

STURTEVANT CO., B. F., Hyde Park, Boston, Mass. Sou. Offices, 101 Marietta St. Bldg., Atlanta, Ga., C. C. Gray, Mgr.; 708 Guilford Bldg., Greensboro, N. C., W. L. Hunken, Mgr.; 708 Mills Bldg., Washington, D. C., E. N. Foss, II, Mgr.

TERRELL MACHINE CO., Charlotte, N. C. E. A. Terrell, Pres. and Mgr.

TEXAS CO., THE, New York, N. Y. District Offices, Box 901, Norfolk, Va., and Box 1722, Atlanta, Ga. Bulk plants and warehouses in all principal cities. Lubrication Engineers, H. L. Marlow, W. H. Grose, W. P. Warner, Greensboro, N. C.; W. H. Goebel, Roanoke, Va.; A. H. Bamman, Norfolk, Va.; P. H. Baker, Spartanburg, S. C.; D. L. Keys, Richmond, Va.

TEXTILE APRON CO., 905 S. Main St., East Point, (Atlanta) Georgia.

TEXTILE-FINISHING MACHINERY CO., Providence, R. I. Sou. Office, Johnston Bldg., Charlotte, N. C.

TEXTILE SHOP, THE, Franklin St., Spartanburg, S. C. E. J. Eaddy, Sec. and Treas.

UNIVERSAL WINDING CO., Providence, R. I. Sou. Offices, Charlotte, N. C., Atlanta, Ga.

U S BOBBIN & SHUTTLE CO., Lawrence, Mass. Sou. Plants Greenville, S. C.; Johnson City, Tenn., and Monticello, Ga. Sou. Reps., E. Rowell Holt, J. M. Gregg, 208 Johnston Bldg., Charlotte, N. C.; M. Ousley, P. O. Box 816, Greenville, S. C.; Chas. Sidney Jordan, Monticello, Ga., and L. K. Jordan, Sales Mgr., Monticello, Ga.

U. S. GUTTA PERCHA PAINT CO., Providence, R. I. Sou. Factory Reps., J. S. Palmer, 1605 Woodside Nat'l. Bank Bldg., Greenville, S. C.; L. K. Palmer, 1116 S. 13th St., Birmingham Ala.; T. C. Roggenkamp, 2738 Alford Ave., Louisville, Ky.; R. R. Berry, Jr., P. O. Box 331, Union, S. C. Sou. Distributors for Barreled Sunlight, Standard Bldg. Material Co., Inc., 230 S. 31st St., Birmingham, Ala.; Campbell Coal Co., 236-240 Marietta St., N.W., Atlanta, Ga.; Graves Paint & Glass Co., 1008 Broadway, Columbus, Ga.; Morgans, Inc., 111 W. Broad St., Savannah, Ga.; Favrot Roofing & Supply Co., P. O. Box 116, Station G, New Orleans, La.; Pritchard Pt. & Gl. Co. of Asheville, 77 Patton Ave., Asheville, N. C.; Pritchard Paint & Glass Co., 12 W. 5th St., Charlotte, N. C.; Shaw Paint & Wlpr. Co., Durham, N. C.; Gate City Paint Co., 110 N. Greene St., Greensboro, N. C.; W. E. Merritt Co., Mt. Airy, N. C.; Ideal Paint & Wlpr. Co., 115 S. Salisbury St., Raleigh, N. C.; Shaw Paint & Wlpr. Co., Southern Pines, N. C.; Vick Paint Co., 219 W. 5th St., Winston-Salem, N. C.; Atlantic Paint Co., 207 Meeting St., Charleston, S. C.; Montgomery & Crawford, Inc., Spartanburg, S. C.; Chapman Drug Co., 516 State St., Knoxville, Tenn.; The Eason-Morgan Co., 312 2nd Ave., N., Nashville, Tenn.; D. A. Hines, 316 12th St., Lynchburg, Va.; The Henry Walke Co., P. O. Box 1003, Norfolk, Va.; Bullington Paint Co., Inc., 4th and Broad Sts., Richmond, Va.; Nelson Hardware Co., 17 Campbell Ave., E., Roanoke, Va.; Baldwin Supply Co., Beckley, W. Va.; Baldwin Supply Co., Bluefield, W. Va.; Baldwin Supply Co., 518 Capitol St., Charleston, W. Va.; Southern Pine Lumber Co., 104 E. Main St., Clarksburg, W. Va.; Emmons-Hawkins Hdwe. Co., 1028 3rd Ave., Huntington, W. Va.; Baldwin Supply Co., Logan, W. Va.; W. A. Wilson & Sons, 1409-25 Main St., Wheeling, W. Va.; Vick Paint & Wall Paper Co., 219 E. Commerce St., High Point, N. C.; Hoyng Paint & Glass Co., 412 Market St., Parkersburg, W. Va.

U. S. RING TRAVELER CO., 159 Aborn St., Providence, R. I. Sou. Reps., William W. Vaughan, P. O. Box 792, Greenville, S. C.; Oliver B. Land, P. O. Box 158, Athens, Ga.; Torrence L. Maynard, P. O. Box 456, Belmont, N. C.

VEEDER-ROOT, Inc., Hartford, Conn. Sou. Office, Room 231 W. Washington St., Greenville, S .C., Edwin Howard, Sou. Sales Mgr.

VICTOR RING TRAVELER CO., Providence, R. I., with Sou Office and Stock Room at 173 W. Franklin Ave., P. O. Box 842 Gastonia, N. C. Also stock room in charge of B. F. Barnes, Jr. Mgr., 1733 Inverness Ave., N. E., Atlanta, Ga.

VISCOSE CO., Johnston Bldg., Charlotte, N. C., Harry L. Dalton, Mgr.

WAK, Inc., 814 S. Tryon St., Charlotte, N. C. W. A. Kennedy Pres.

WATSON-WILLIAMS MFG. CO., Millbury, Mass. Sou. Reps., D. C. Ragan, High Point, N. C.; E. V. Wilson, Greenville, S. C.

WHITIN MACHINE WORKS, Whitinsville, Mass. Sou. Office Whitin Bldg., Charlotte, N. C., W. H. Porcher and R. I. Dalton Mgrs.; 1317 Healey Bldg., Atlanta, Ga. Sou. Reps., M. P. Thomas, Charlotte Office; I. D. Wingo and M. J. Bentley, Atlanta Office.

WHITINSVILLE SPINNING RING CO., Whitinsville, Mass Sou. Rep., H. Ross Brock, LaFayette, Ga.

WILLIAMS & SONS, I. B., Dover, N. H. Sales Reps., C. C. Withington, 710 Woodside Bldg., Greenville, S. C.; R. A. Brand, 203 Latta Arcade, Charlotte, N. C.; P. B. Raiford, 188 Washington Lane, Concord, N. C.

WINDLE & CO., J. H., 231 S. Main St., Providence, R. I.

WOLF, JACQUES & CO., Passiac, N. J. Sou. Reps., C. R. Bruning, 306 S. Chapman St., Greensboro, N. C.; G. W. Searell, Jefferson Apts., 501 E. 5th St., Chattanooga, Tenn.

WYTHEVILLE WOOLEN MILLS, Inc., Wytheville, Va. Sou Reps., Charlotte Supply Co., Charlotte, N. C.; Montgomery & Crawford Co., Inc., Spartanburg, S. C.; Sullivan Hardware Co., Anderson, S. C.; Southern Belting Co., Atlanta, Ga.; Russell A. Singleton, Jackson, Miss., and Dallas, Tex.; Proximity Mercantile, Greensboro, N. C.

VOGEL FROST-PROOF CLOSETS

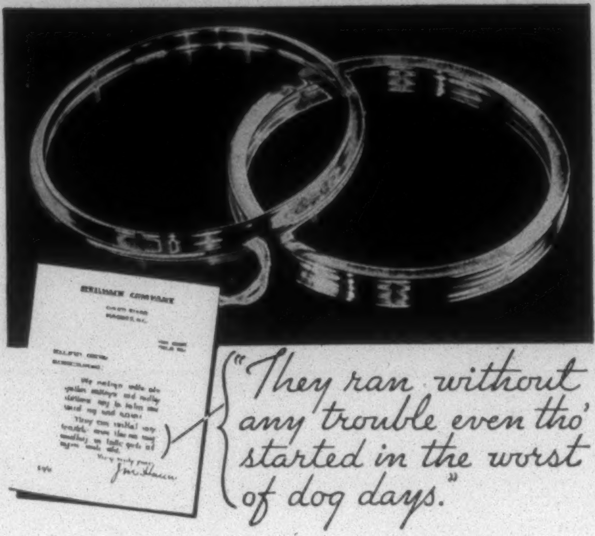
have a Perfect Record

IN the twenty-eight years we have been manufacturing VOGEL Frost-Proof Closets there is no record of one ever freezing when properly installed. And during this time they have built up an amazing reputation for durability and economy.

Sold by Plumbers Everywhere

JOSEPH A. VOGEL COMPANY
Wilmington, Del. St. Louis, Mo.

VOGEL PATENTED *Products*



"They ran without any trouble even tho' started in the worst of dog days."

If you need to replace worn rings to put your twisters and frames in top-production shape, don't wait on the weather. DIAMOND FINISH high-polish rings are started by numerous mills each summer with entirely satisfactory results. (Above is actual quotation from a customer.)

WHITINSVILLE (MASS.)
SPINNING DIAMOND FINISH **RING CO.**
Makers of Spinning and Twister Rings since 1873

Southern Representative: H. ROSS BROCK, Lafayette, Georgia
Mid-West Representative: ALBERT R. BREEN, 80 E. Jackson Blvd., Chicago

Books That Will Help You With Your Problems

"Clark's Weave Room Calculations"

Textile Expert of U. S. Tariff Commission

By W. A. Graham Clark

Second edition. Completely revised and enlarged. A practical treatise of cotton yarn and cloth calculations for the weave room. Price, $3.00.

"Practical Loom Fixing" (Fourth Edition)

By Thomas Nelson

Completely revised and enlarged to include chapters on Rayon Weaving and Rayon Looms. Price, $1.25.

"Cotton Mill Processes and Calculations"

By D. A. Tomnkins

Third edition. Completely revised. An elementary text book for the use of textile schools and home study. Illustrated throughout. Price, $2.00.

"Remedies for Dyehouse Troubles"

By Wm. C. Dodson, B.E.

A book dealing with just that phase of dyeing which constitutes the day's work of the average mill dyer. Price, $1.50.

"Carding and Spinning"

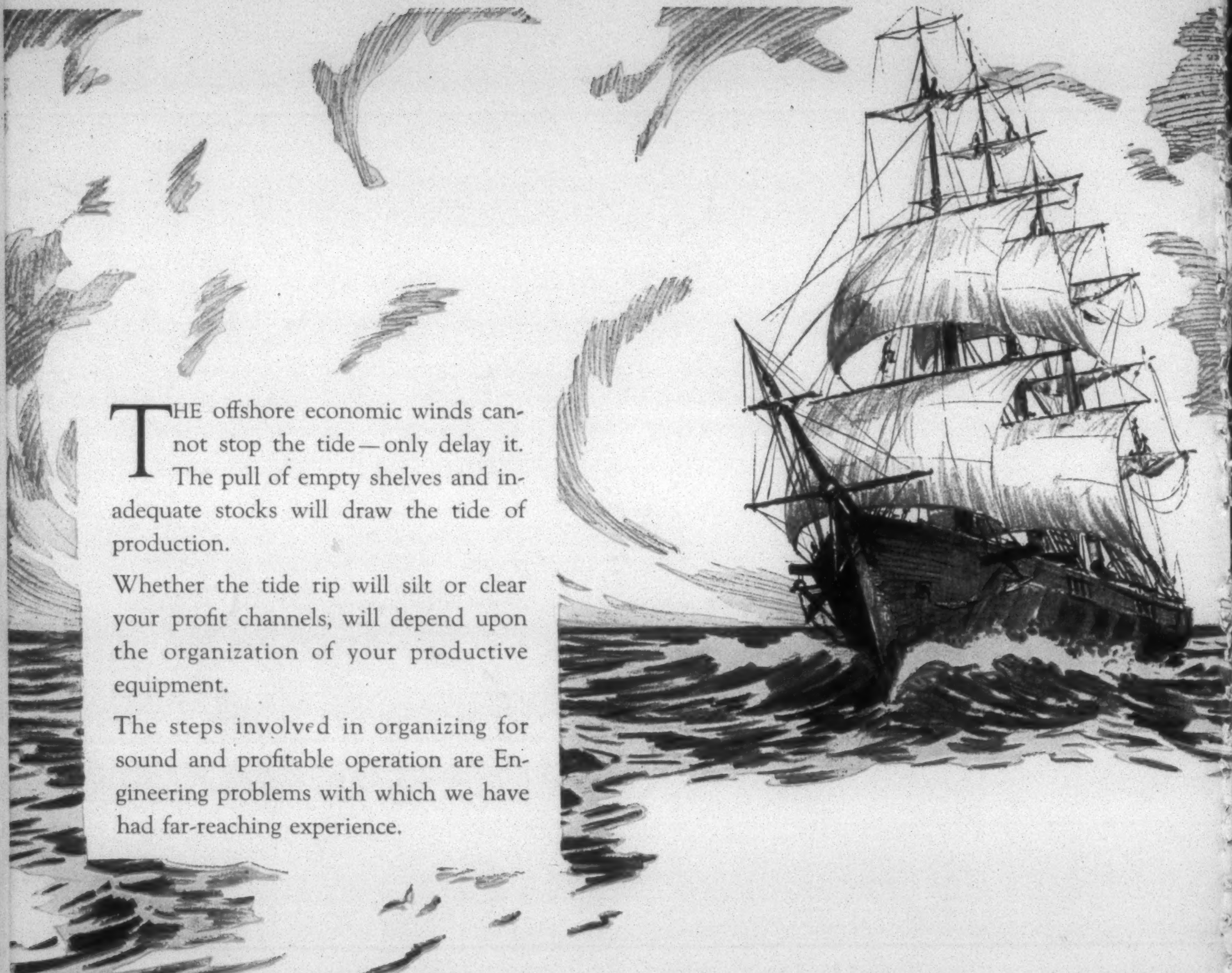
By Geo. F. Ivey

A practical book on Carding and Spinning. Price, $1.00.

Published By

Clark Publishing Company
Charlotte, N. C.

Come up with the tide!



THE offshore economic winds cannot stop the tide—only delay it. The pull of empty shelves and inadequate stocks will draw the tide of production.

Whether the tide rip will silt or clear your profit channels, will depend upon the organization of your productive equipment.

The steps involved in organizing for sound and profitable operation are Engineering problems with which we have had far-reaching experience.

J. E. SIRRINE & COMPANY

Engineers

Greenville **South Carolina**

Textile Mills
Rayon Mills
Power Application
Production Studies
Reorganization

Paper Mills
Tobacco Factories
Power Plants
Water Supply
Industrial Plants